

Technics

ORGAN



SX-EN1

SX-EN2

SX-EN3

SX-EN4



	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FOR CANADA

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

POUR CANADA

L'interférence radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY. (for UNITED KINGDOM)

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic/Technics Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.


IMPORTANT: —The wires in this mains lead are coloured in accordance with the following code:—

Blue:	Neutral
Brown:	Live

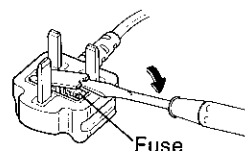
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three-pin plug, marked with the letter E or the Earth Symbol .

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



OWNER'S MANUAL

Caution

Voltage (except North America, Mexico and Europe excluding United Kingdom)

Be sure the voltage adjuster located on the rear panel is in accordance with local voltage in your area before using this unit. Use a screwdriver to set the voltage adjuster to the local voltage.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

BEFORE YOU PLAY, PLEASE READ THE CAUTIONARY COPY APPEARING ON PAGE 106.

Before you play

For long and pleasurable use of this instrument, and to gain a thorough understanding of your EN series organ, it is strongly recommended that you read through this Owner's Manual.

The Owner's Manual is comprised of:

BASIC FUNCTIONS

This section includes an explanation of basic procedures and points you should be aware of for proper operation of your instrument.

PRACTICAL APPLICATIONS

This section comprises a detailed explanation of sounds, effects, rhythms, **SEQUENCER** (EN3/EN4), **COMPOSER** (EN3/EN4), Digital Disk Recorder (EN3/EN4), function-setting, and MIDI functions.

SOUND AND RHYTHM GUIDE

Reference guide for the contents of the **SOUND VARIATION** settings, **RHYTHM VARIATION** settings, etc.

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Controls and functions

EN1

RHYTHM

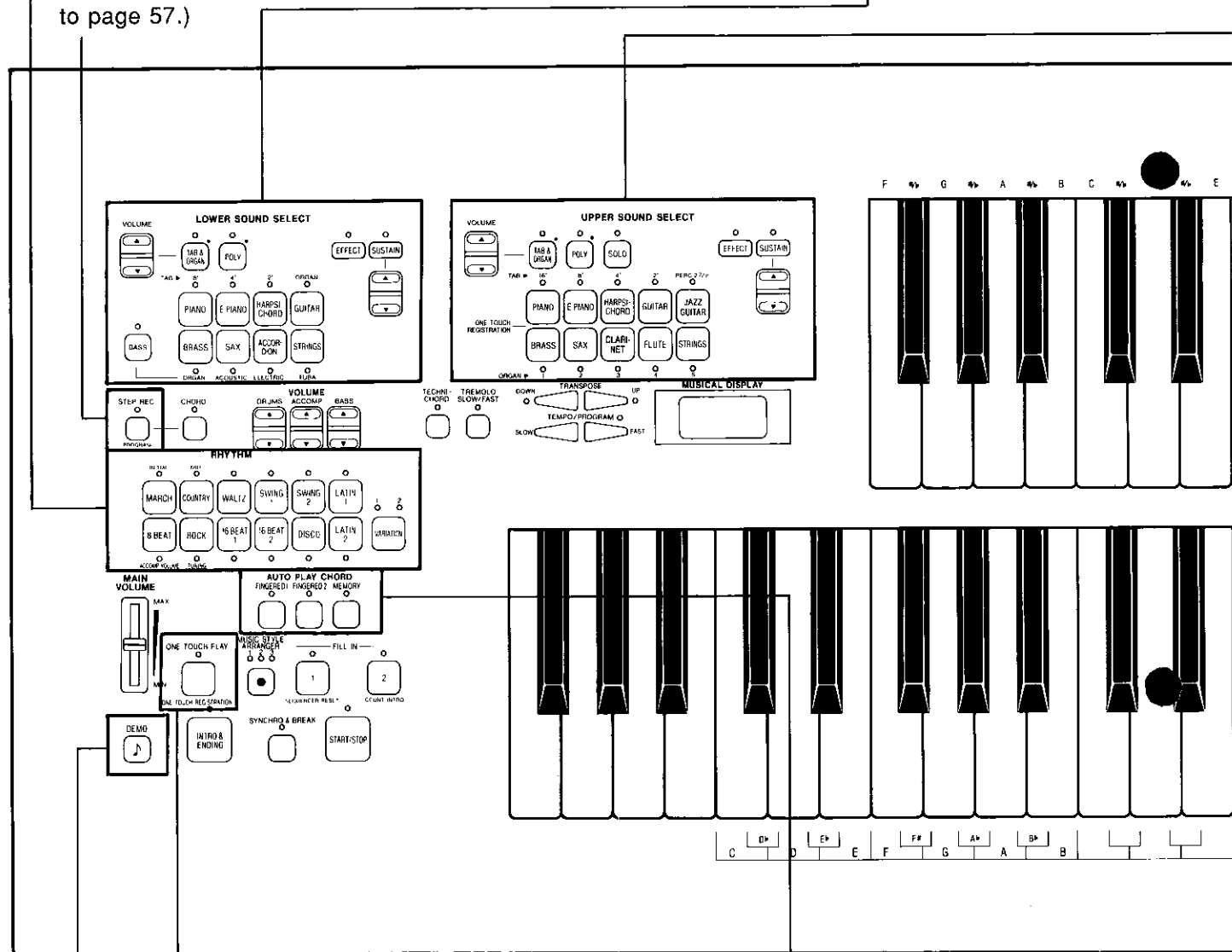
Select preset automatic rhythms. Each rhythm has two variations. (Refer to page 25, 48.)

LOWER SOUND SELECT

Select the sounds to be played on the lower keyboard and with the pedal keyboard. (Refer to page 19, 34.)

STEP REC

Record a chord progression to be used with the automatic accompaniment. (Refer to page 57.)



ONE TOUCH PLAY

Select a rhythm, and the appropriate sounds and effects are automatically set. (Refer to page 55.)

AUTO PLAY CHORD

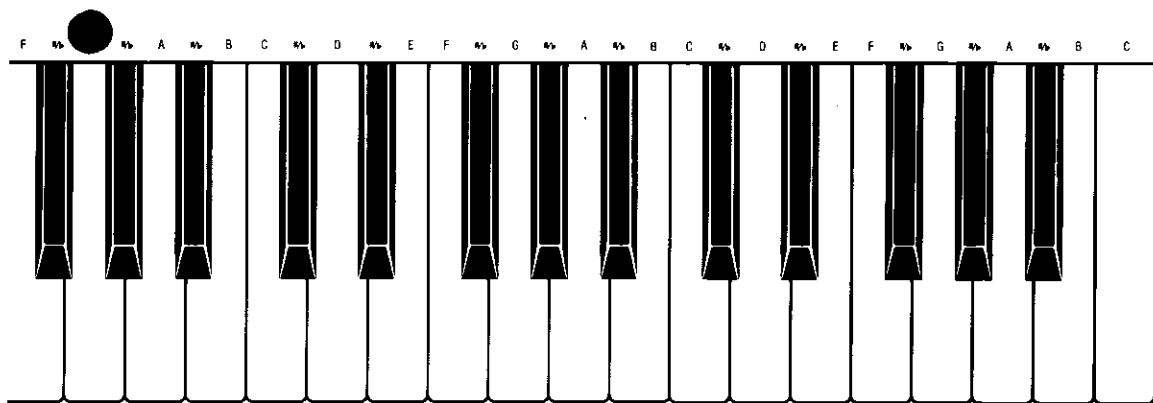
By specifying a chord on the lower keyboard, an accompaniment pattern is automatically produced. (Refer to page 28, 52.)

DEMO

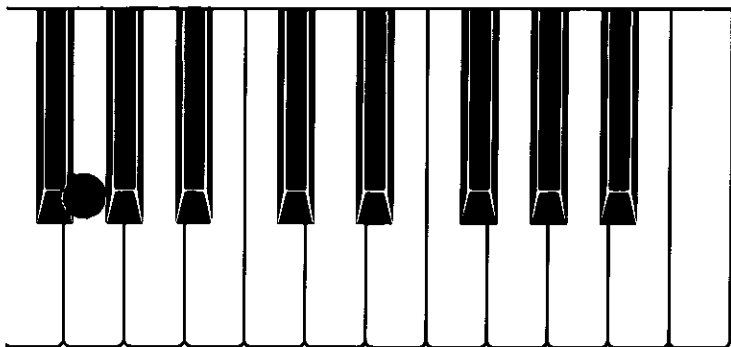
An automatic performance introduces you to the organ's sounds and features. (Refer to page 15.)

UPPER SOUND SELECT

Select the sounds to be played on the upper keyboard. (Refer to page 17, 31.)



W01EN1
PCM
SOUND



POWER
OFF ON



EN2

RHYTHM

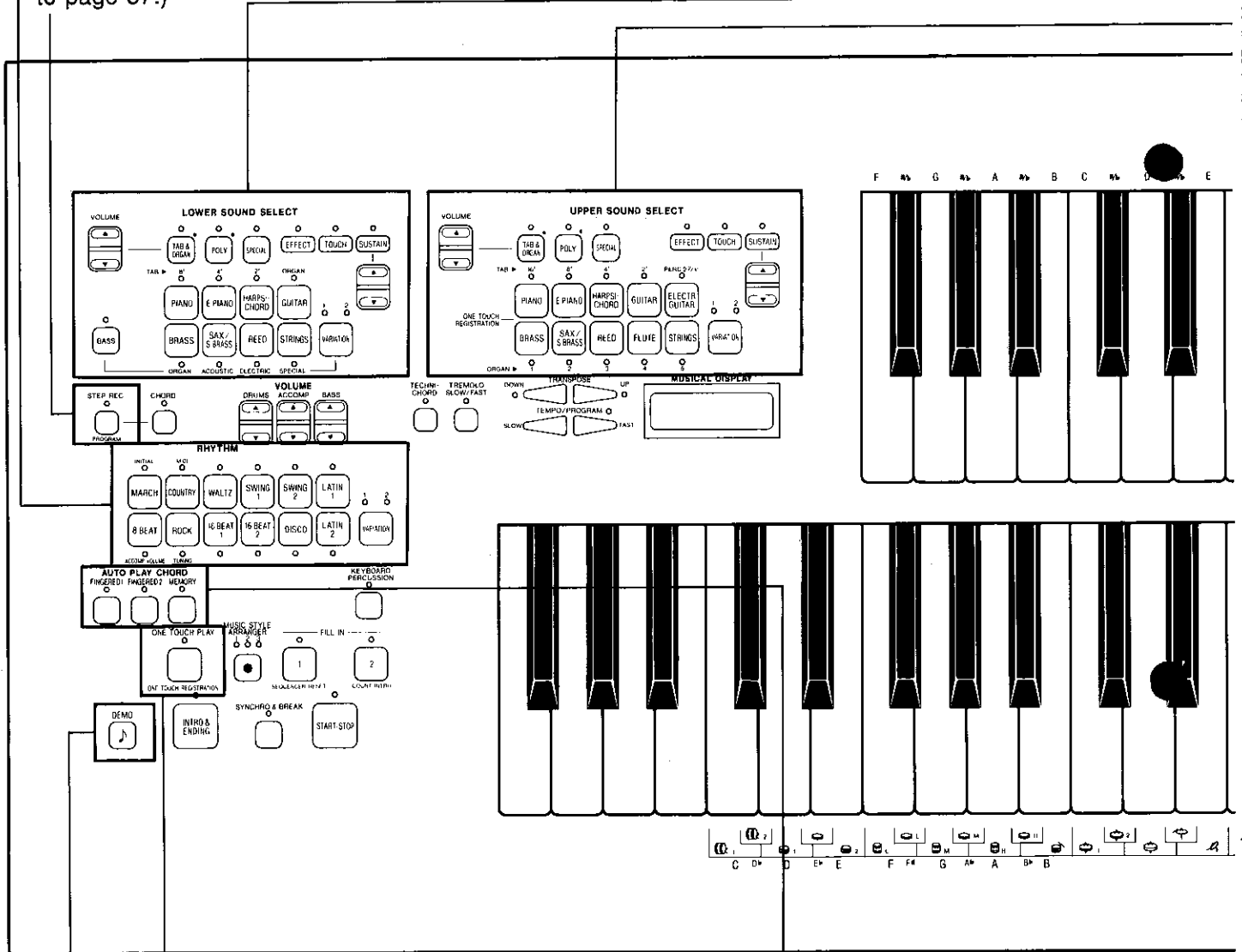
Select preset automatic rhythms. Each rhythm has two variations. (Refer to page 25, 48.)

STEP REC

Record a chord progression to be used with the automatic accompaniment. (Refer to page 57.)

LOWER SOUND SELECT

Select the sounds to be played on the lower keyboard and with the pedal keyboard. Each sound has two variations. (Refer to page 19, 34.)



ONE TOUCH PLAY

Select a rhythm, and the appropriate sounds and effects are automatically set. (Refer to page 55.)

AUTO PLAY CHORD

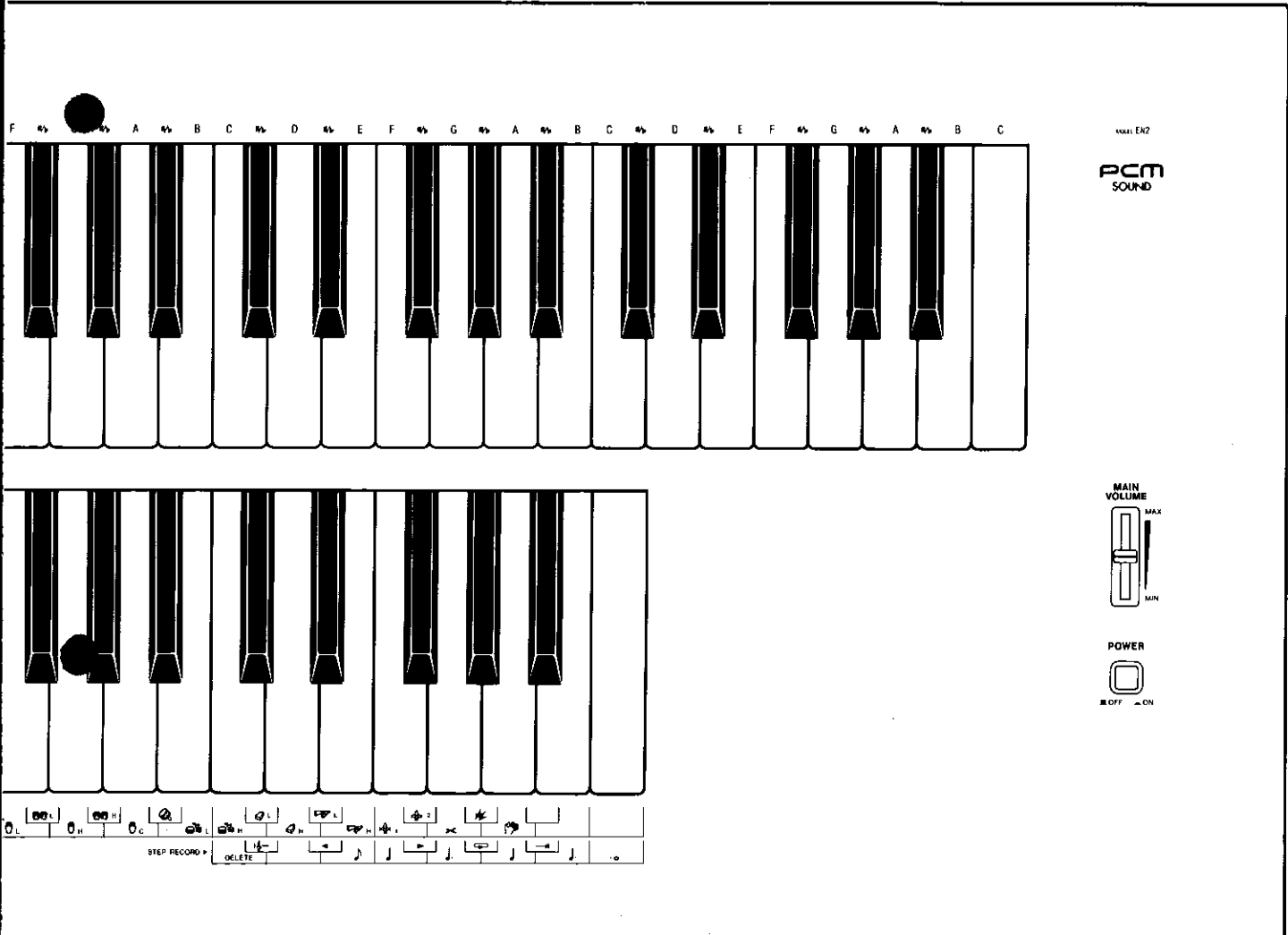
By specifying a chord on the lower keyboard, an accompaniment pattern is automatically produced. (Refer to page 28, 52.)

DEMO

An automatic performance introduces you to the organ's sounds and features. (Refer to page 15.)

UPPER SOUND SELECT

Select the sounds to be played on the upper keyboard. Each sound has two variations. (Refer to page 17, 31.)



EN3

UPPER SOUND SELECT

Select the sounds to be played on the upper keyboard. Each sound has two variations. (Refer to page 22, 38.)

LOWER TAB & ORGAN

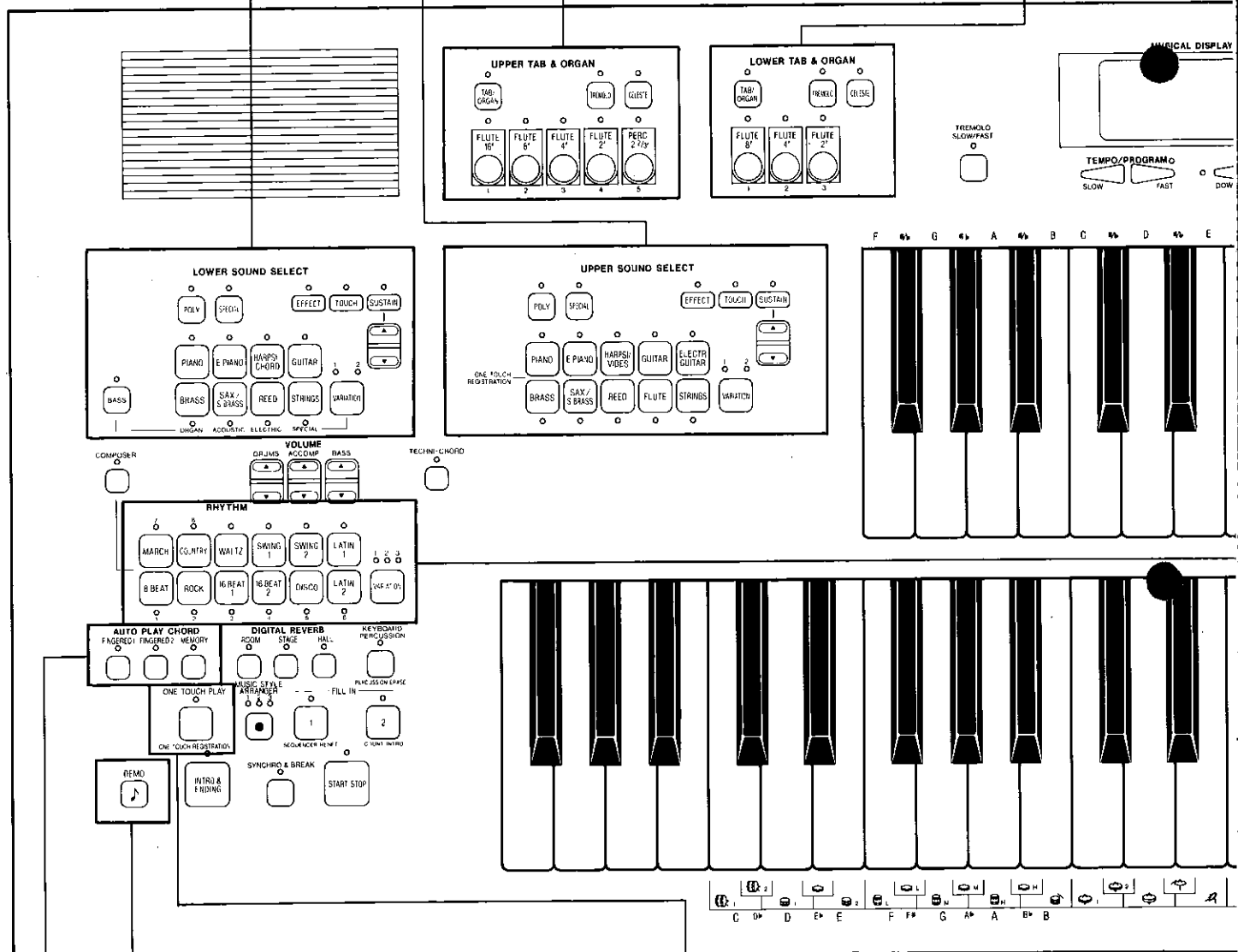
Select the flute and organ sounds to be played on the lower keyboard. (Refer to page 23, 39.)

LOWER SOUND SELECT

Select the sounds to be played on the lower keyboard and with the pedal keyboard. Each sound has two variations. (Refer to page 23, 39.)

UPPER TAB & ORGAN

Select the flute and organ sounds to be played on the upper keyboard. (Refer to page 21, 37.)



DEMO

An automatic performance introduces you to the organ's sounds and features. (Refer to page 15.)

ONE TOUCH PLAY

Select a rhythm, and the appropriate sounds and effects are automatically set. (Refer to page 55.)

AUTO PLAY CHORD

By specifying a chord on the lower keyboard, an accompaniment pattern is automatically produced. (Refer to page 28, 52.)

VOICE SETTING COMPUTER

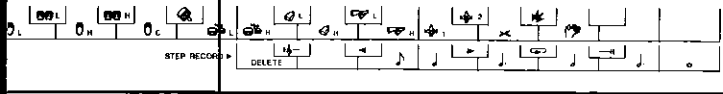
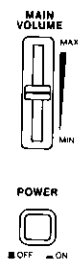
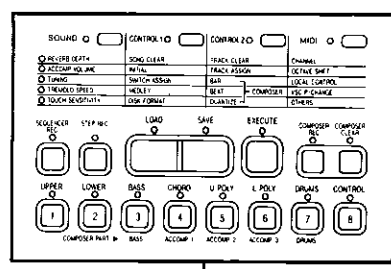
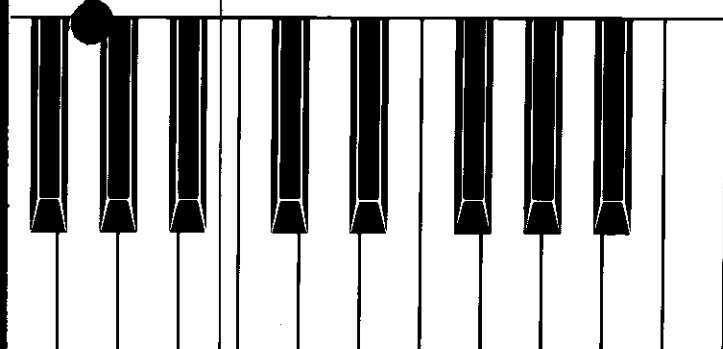
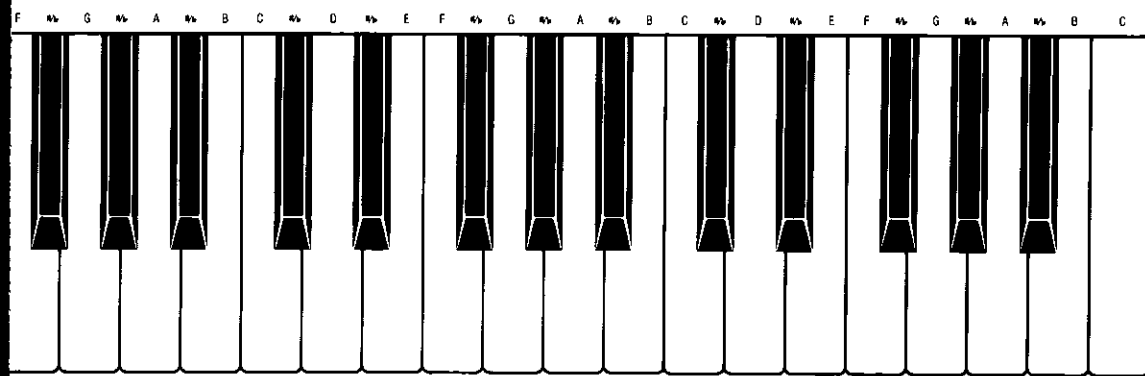
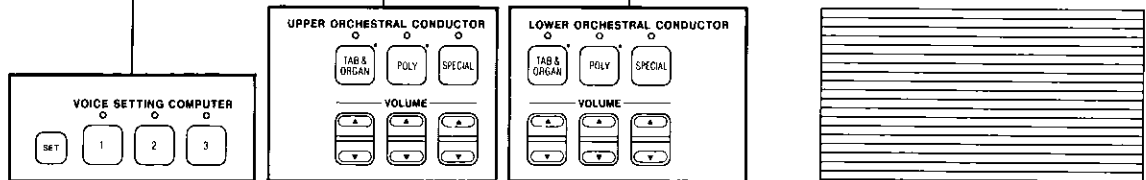
Store the panel settings for instant recall as you play. (Refer to page 46.)

LOWER ORCHESTRAL CONDUCTOR

Select the part to be played on the lower keyboard. (Refer to page 21, 36.)

UPPER ORCHESTRAL CONDUCTOR

Select the part to be played on the upper keyboard. (Refer to page 21, 36.)



RHYTHM

Select preset automatic rhythms. Each rhythm has three variations. (Refer to page 25, 48.)

Program section

Used to perform the procedures for recording a performance, creating an accompaniment pattern and setting functions.

EN4

UPPER SOUND SELECT

Select the sounds to be played on the upper keyboard. Each sound has three variations. (Refer to page 22, 38.)

LOWER TAB & ORGAN

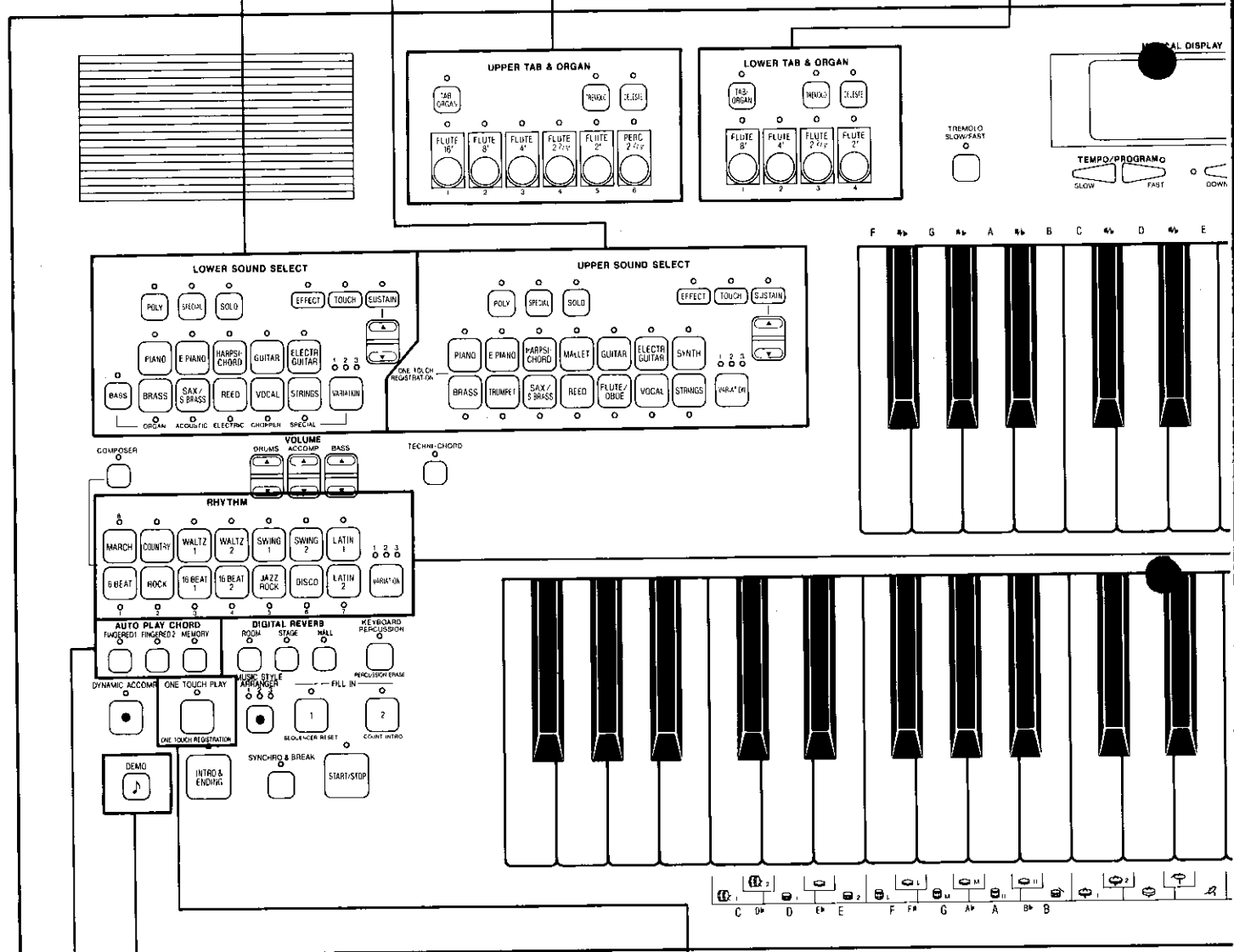
Select the flute and organ sounds to be played on the lower keyboard. (Refer to page 23, 39.)

LOWER SOUND SELECT

Select the sounds to be played on the lower keyboard and with the pedal keyboard. Each sound has three variations. (Refer to page 23, 39.)

UPPER TAB & ORGAN

Select the flute and organ sounds to be played on the upper keyboard. (Refer to page 21, 37.)



DEMO

An automatic performance introduces you to the organ's sounds and features. (Refer to page 15.)

AUTO PLAY CHORD

By specifying a chord on the lower keyboard, an accompaniment pattern is automatically produced. (Refer to page 28, 52.)

ONE TOUCH PLAY

Select a rhythm, and the appropriate sounds and effects are automatically set. (Refer to page 55.)

VOICE SETTING COMPUTER

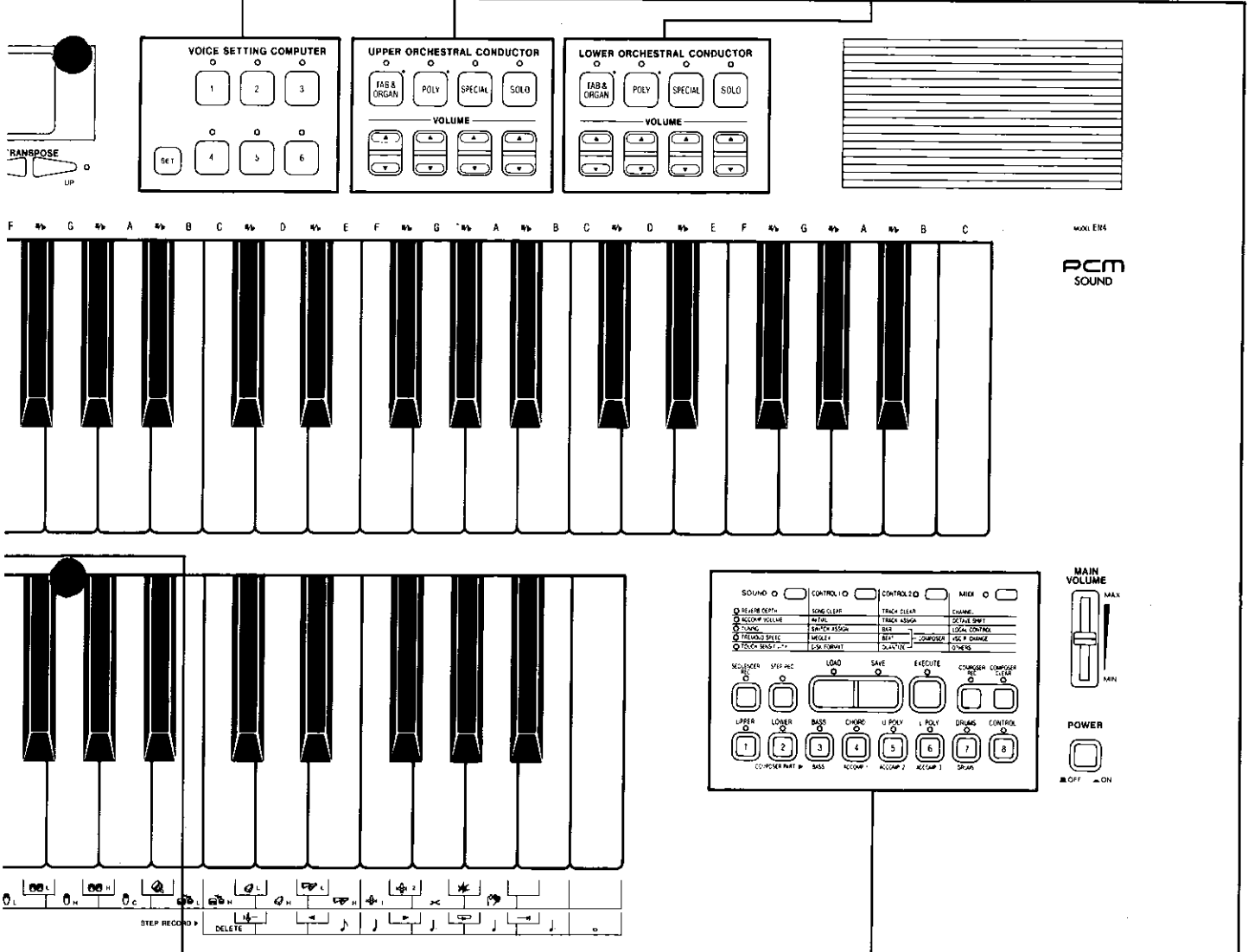
Store the panel settings for instant recall as you play. (Refer to page 46.)

LOWER ORCHESTRAL CONDUCTOR

Select the part to be played on the lower keyboard. (Refer to page 21, 36.)

UPPER ORCHESTRAL CONDUCTOR

Select the part to be played on the upper keyboard. (Refer to page 21, 36.)



RHYTHM

Select preset automatic rhythms. Each rhythm has three variations. (Refer to page 25, 48.)

Program section

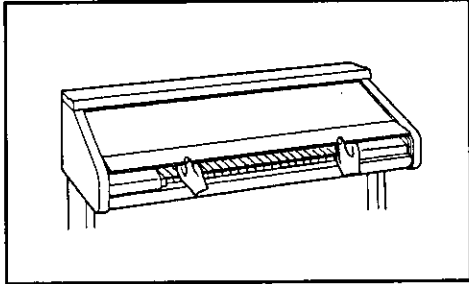
Used to perform the procedures for recording a performance, creating an accompaniment pattern and setting functions.

Getting started

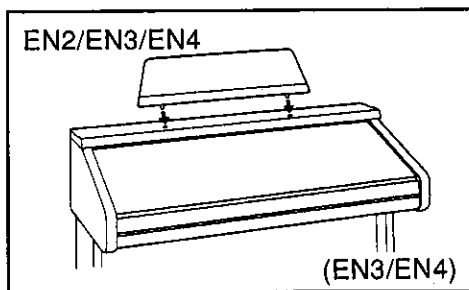
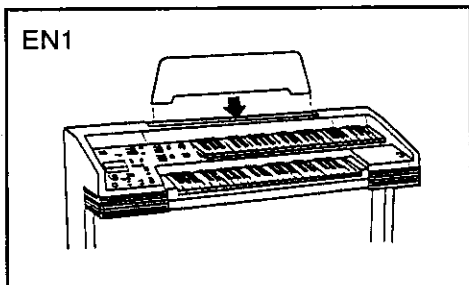
Before you play

- 1** Plug the power cord into an outlet.

- 2** **Keyboard cover (EN3/EN4)**
Open and close the cover gently.

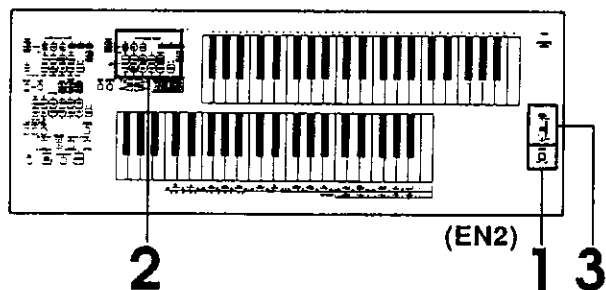
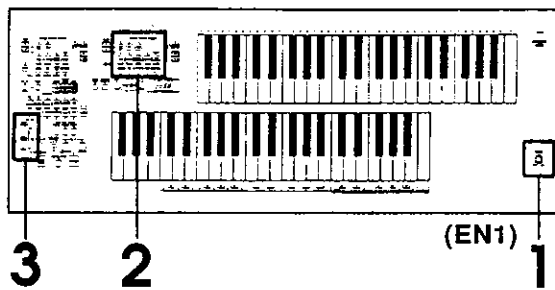


- 3** **Music stand**
Insert the music stand in the two holes as shown in the diagram.

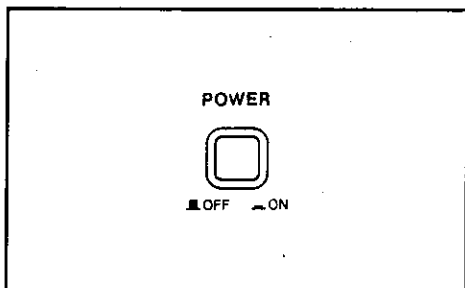


(EN3/EN4)

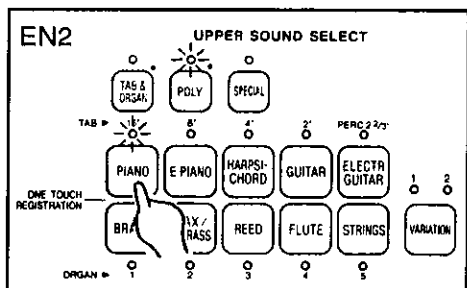
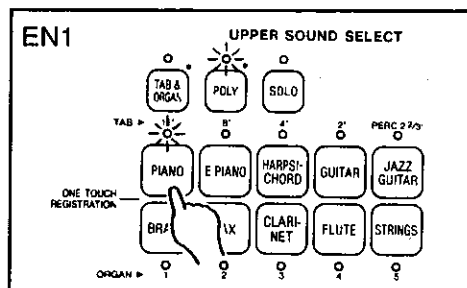
Playing (EN1/EN2)



1 Press the **POWER** button to turn it on.

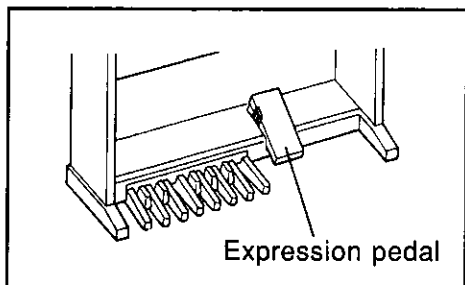
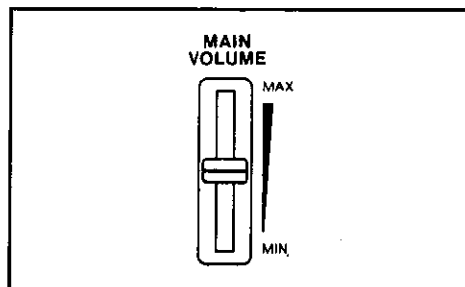


2 In the **UPPER SOUND SELECT** section, press the **POLY** button to turn it on, and select the **PIANO** sound.



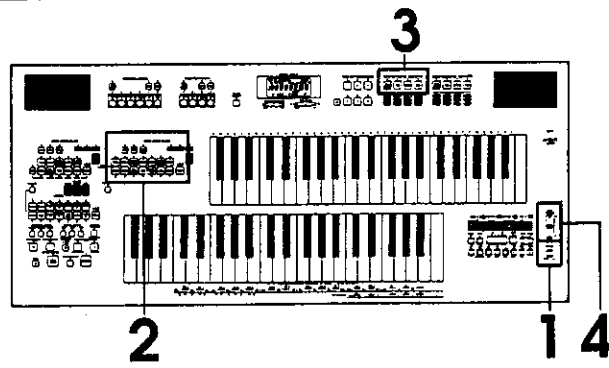
3 Set the **MAIN VOLUME** to an appropriate level, and play a tune on the upper keyboard.

- Modulate the volume with the expression pedal.

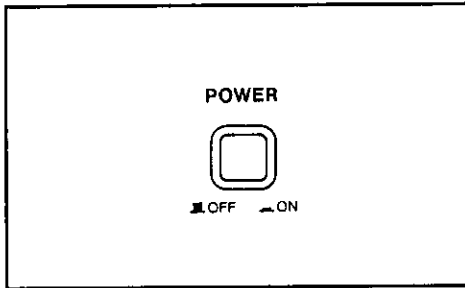


Basic functions

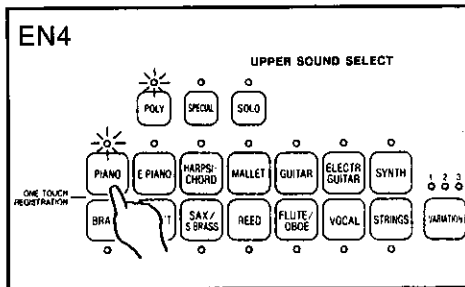
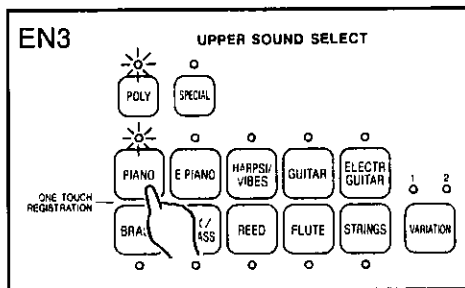
Playing (EN3/EN4)



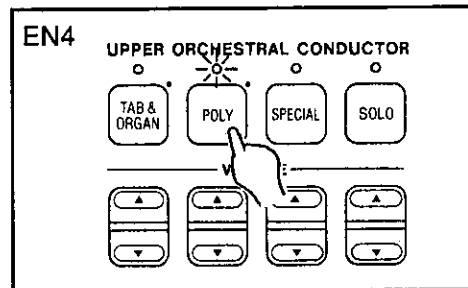
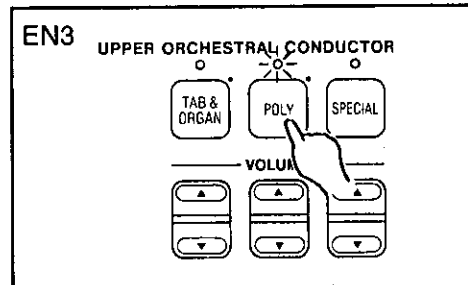
1 Press the **POWER** button to turn it on.



2 In the **UPPER SOUND SELECT** section, press the **POLY** button to turn it on, and select the **PIANO** sound.

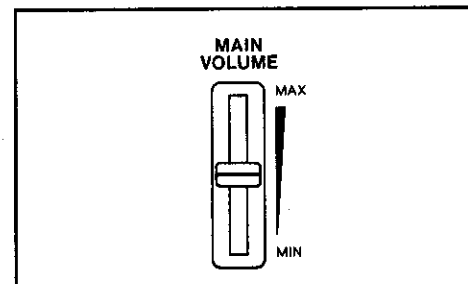


3 In the **UPPER ORCHESTRAL CONDUCTOR**, press the **POLY** button to turn it on.



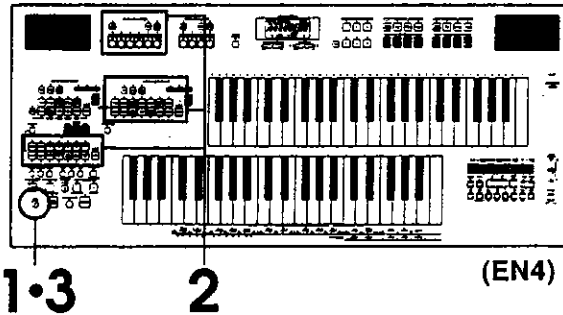
4 Set the **MAIN VOLUME** to an appropriate level, and play a tune on the upper keyboard.

- Modulate the volume with the expression pedal.

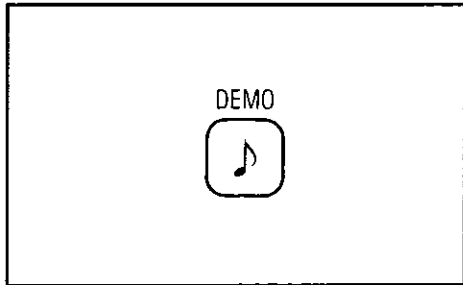


Listen to the demonstration

Listen to a particular sound or rhythm demonstration.

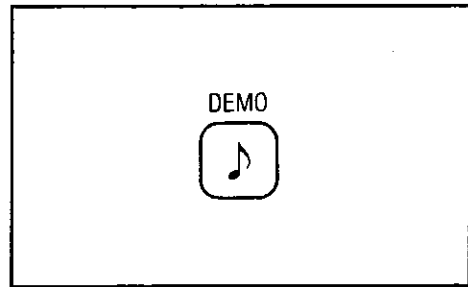


1 Press the **DEMO** button.

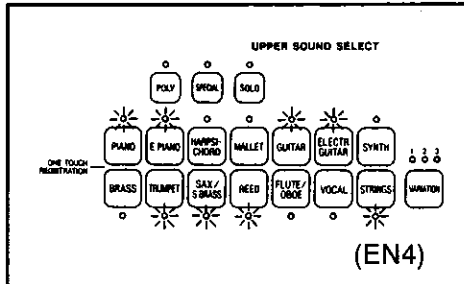


- The display changes to the DEMO display (---).

3 When you are finished listening to the demonstration tunes, press the **DEMO** button again.

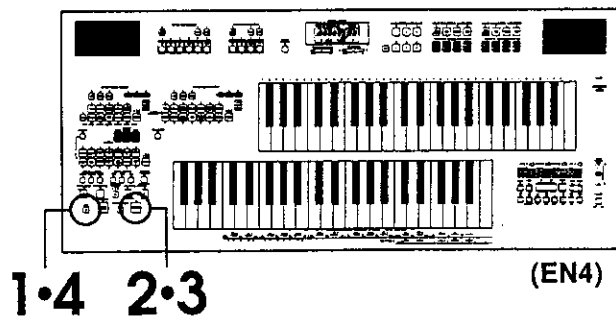


2 Press any button whose indicator is flashing for the demonstration performance you wish to hear.

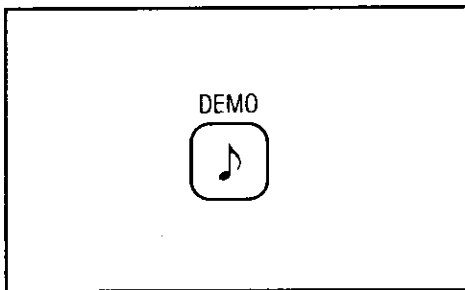


- ♪ The demonstration performance corresponding to your selection will begin.
- Repeat this procedure to listen to other sounds and rhythms.
- To end the performance before it has finished, press the button with the flashing indicator.

Listen to the demonstration tunes in order.

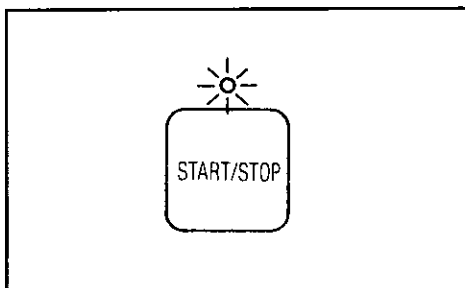


1 Press the **DEMO** button.



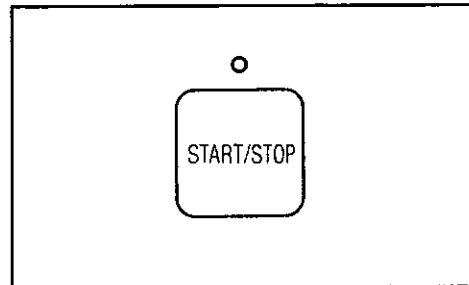
- The display changes to the DEMO display (---).

2 Press the **START/STOP** button.



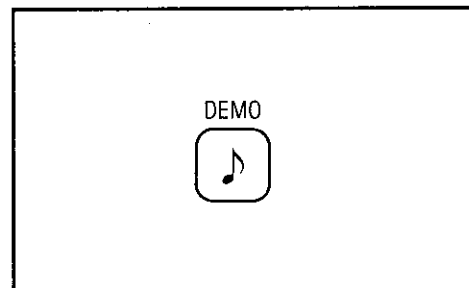
- ♪ The demonstration tunes are played in order.
- If you press the button with the flashing indicator during the demonstration performance, the current tune stops and the following tune begins.

3 To stop the demonstration performance, press the **START/STOP** button.



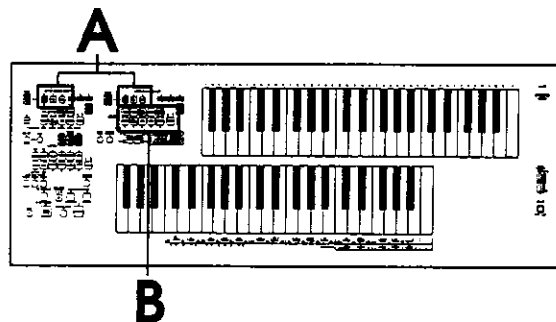
- The tunes are repeated in order until the **START/STOP** button is pressed.

4 When you are finished listening to the demonstration tunes, press the **DEMO** button again.



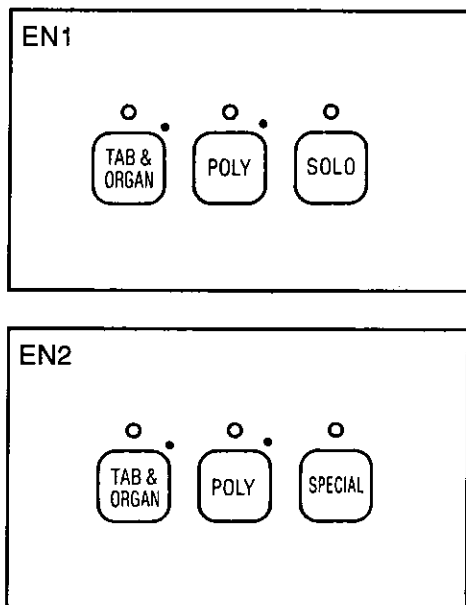
- The other buttons and keys do not function while the demonstration performances are being played.

Selecting sounds: EN1/EN2



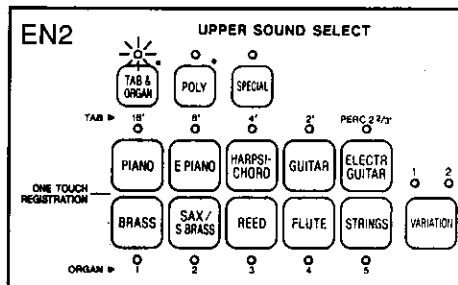
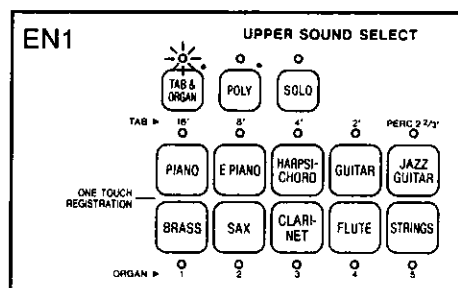
Part buttons

A The desired sounds are assigned to the upper and lower keyboards with the "part" buttons in the respective **UPPER SOUND SELECT** and **LOWER SOUND SELECT** sections.



Upper keyboard sounds

B **TAB & ORGAN**
After turning on the **TAB & ORGAN** button in the **UPPER SOUND SELECT** section, you can select the **TAB** sounds or an **ORGAN** sound for the upper keyboard.

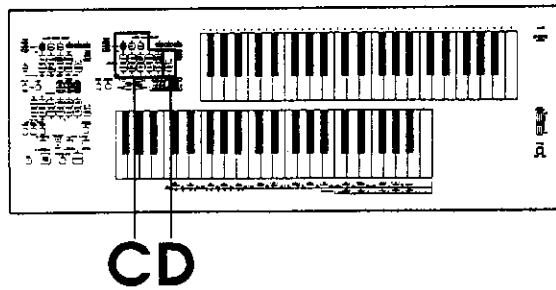


■ TAB (flute sounds)

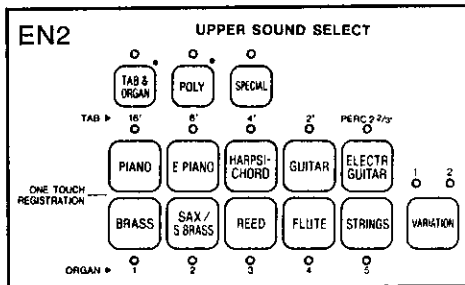
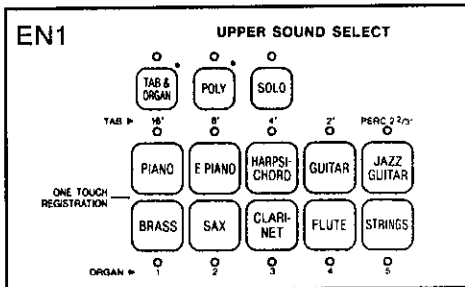
Turn on the button or buttons in the upper row of the **UPPER SOUND SELECT** section to play the desired flute sounds. The higher the number, the lower the pitch of the sound.

■ ORGAN

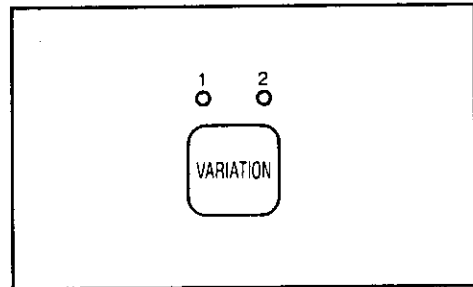
Press one of the buttons, 1~5, in the lower row of the **UPPER SOUND SELECT** section.



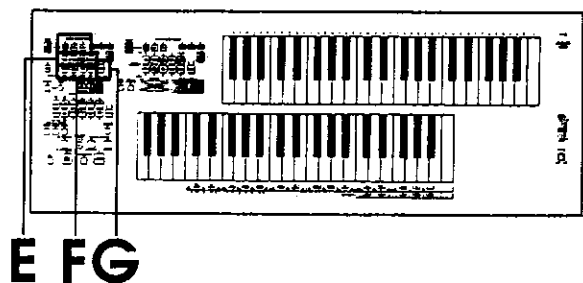
C POLY, SOLO (EN1)/SPECIAL (EN2)
 After turning on the **POLY, SOLO** (EN1) or **SPECIAL** (EN2) button in the **UPPER SOUND SELECT** section, you can select the sound for that part.



D VARIATION (EN2)
 Use the **VARIATION** button to select variation 1 or 2.

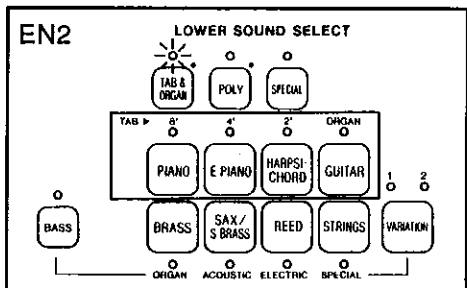
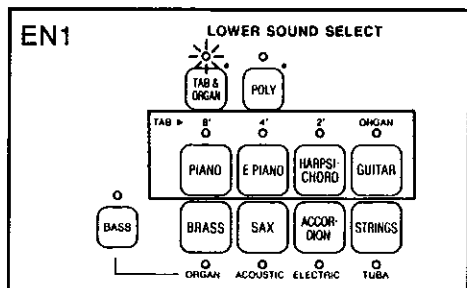


- You can mix sounds on a keyboard by selecting two part buttons at the same time. (Note, however, that you cannot select **TAB & ORGAN** and **POLY** at the same time.)
- The sound selected for the **SOLO** part (EN1) is monophonic: only one note sounds at a time.



Lower keyboard sounds

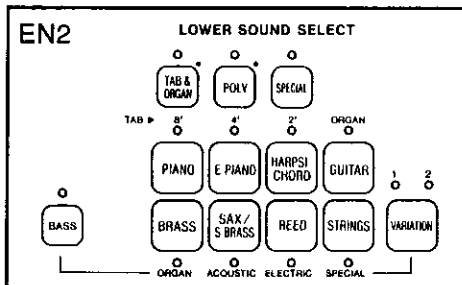
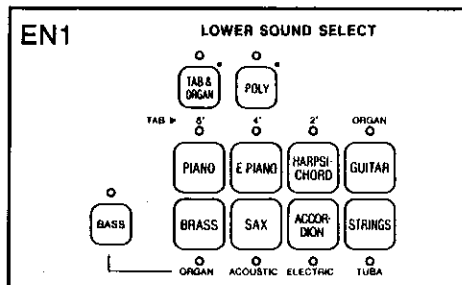
E TAB & ORGAN
 After turning on the **TAB & ORGAN** button in the **LOWER SOUND SELECT** section, you can select the **TAB** sounds or the **ORGAN** sound for the lower keyboard.



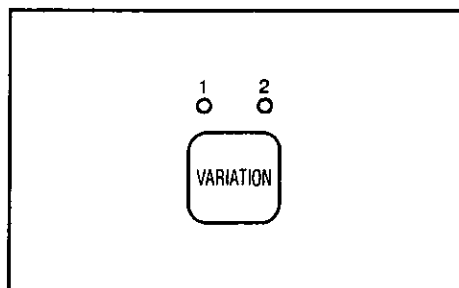
■ **TAB (flute sounds)**
 Turn on the button or buttons in the upper row of the **LOWER SOUND SELECT** section (8', 4', 2') to play the desired flute sounds.

■ **ORGAN**
 Select the organ sound for the lower keyboard by turning on the **ORGAN** button.

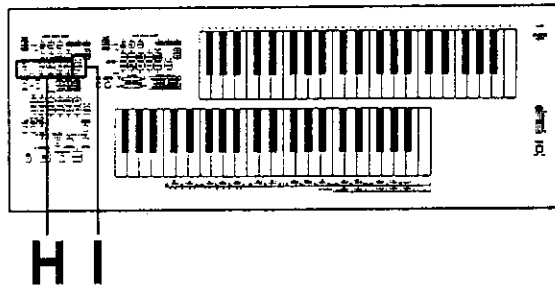
F POLY, SPECIAL (EN2)
 After turning on the **POLY** or **SPECIAL** (EN2) button in the **LOWER SOUND SELECT** section, you can select the sound for that part.



G VARIATION (EN2)
 Use the **VARIATION** button to select variation 1 or 2.

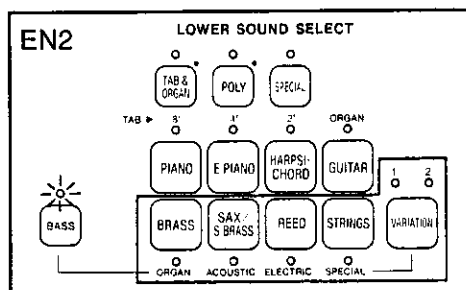
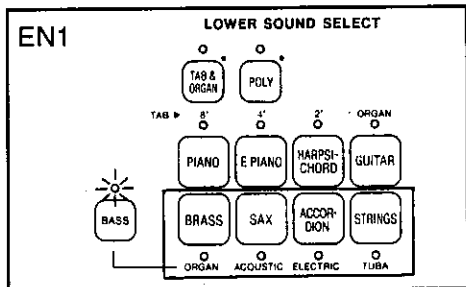


Selecting sounds: EN1/EN2



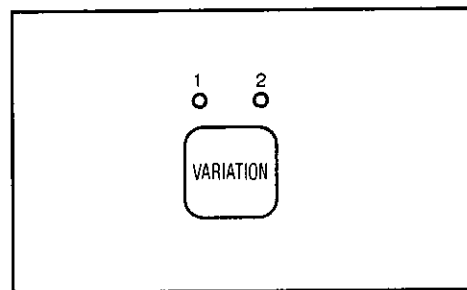
Pedal keyboard sounds

H After turning on the **BASS** button in the **LOWER SOUND SELECT** section, you can select the sounds for the pedal keyboard with the buttons in the lower row. (The names of the **BASS** sounds are indicated below the buttons in the bottom row.)



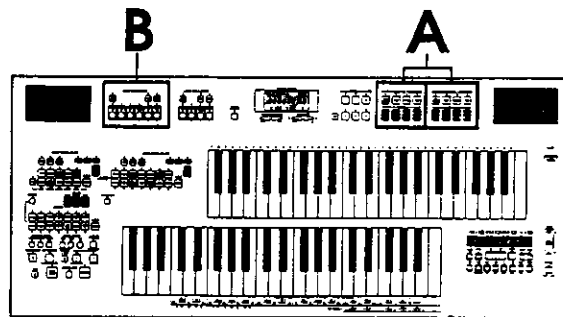
VARIATION (EN2)

Use the **VARIATION** button to select variation 1 or 2.



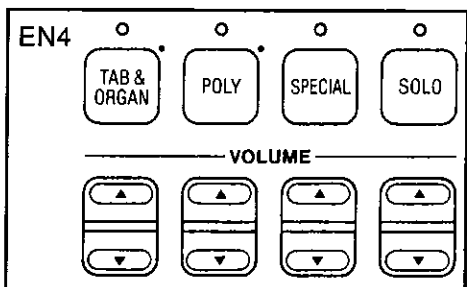
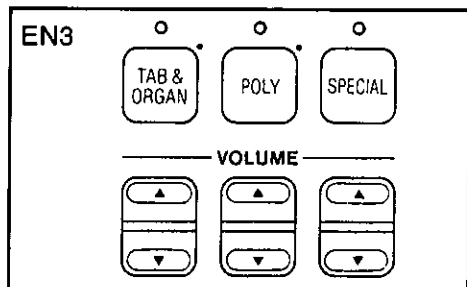
- Only one **BASS** note can sound at a time.
- A few seconds after you choose the **BASS** sound, the **BASS** indicator turns off, and the indicators for the current lower keyboard sound turn on again.

Selecting sounds: EN3/EN4



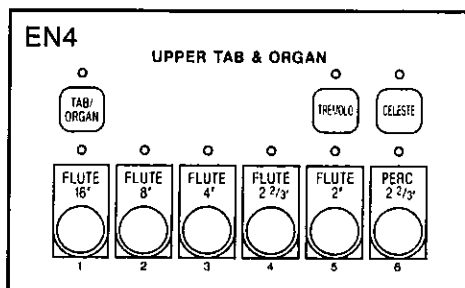
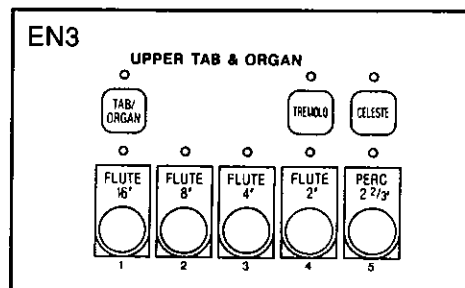
Orchestral Conductor

A The desired sounds are assigned to the upper and lower keyboards with the buttons in the respective **UPPER ORCHESTRAL CONDUCTOR** and **LOWER ORCHESTRAL CONDUCTOR** sections.



Upper keyboard sounds

B **TAB & ORGAN**
The buttons in the **UPPER TAB & ORGAN** section are for selecting **TAB** (flute) or **ORGAN** sounds for the upper keyboard.



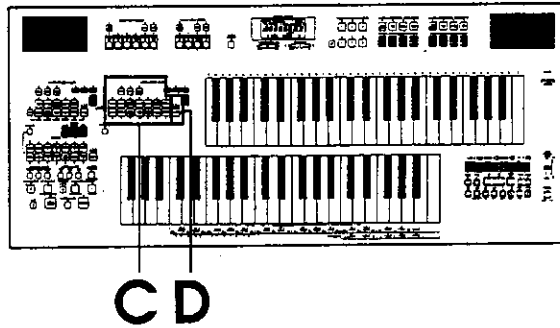
■ **TAB (when the TAB/ORGAN button is off)**

Combine flute sounds by turning on the button or buttons in the **UPPER TAB & ORGAN** section. The higher the number indicated on the button, the lower the pitch of the sound.

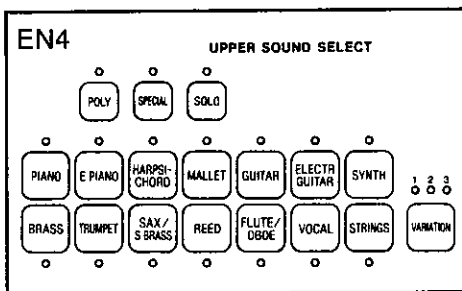
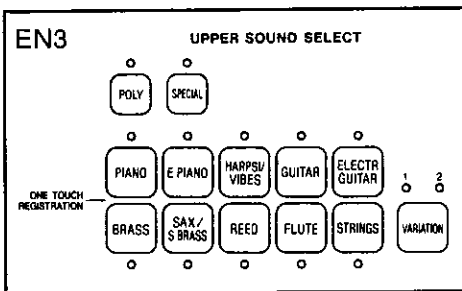
■ **ORGAN (when the TAB/ORGAN button is on)**

Select one of the sounds (EN3: 1~5, EN4: 1~6) in the **UPPER TAB & ORGAN** section.

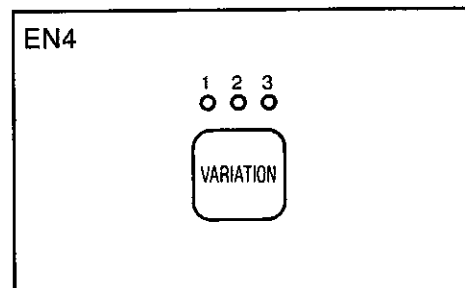
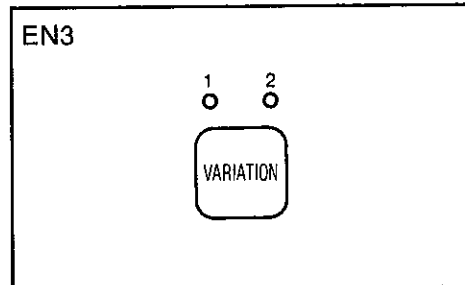
Basic functions



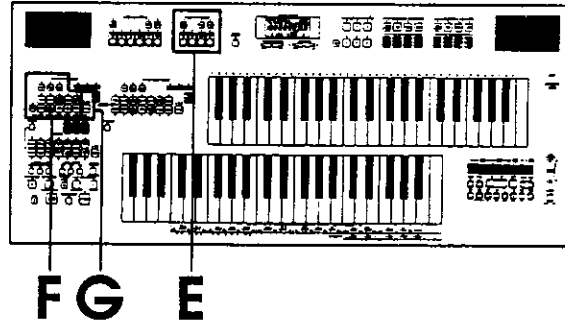
C **POLY, SPECIAL, SOLO (EN4)**
 After turning on the **POLY**, **SPECIAL**, or **SOLO (EN4)** button in the **UPPER SOUND SELECT** section, you can select the sound for that part.



D **VARIATION**
 Use the **VARIATION** button to select variation 1 or 2 (EN3) or 1~3 (EN4).

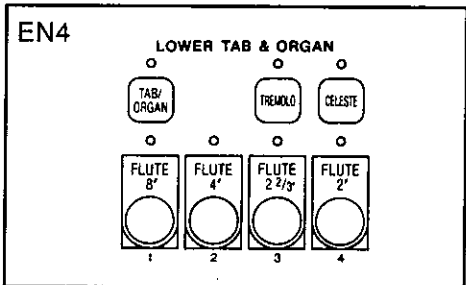
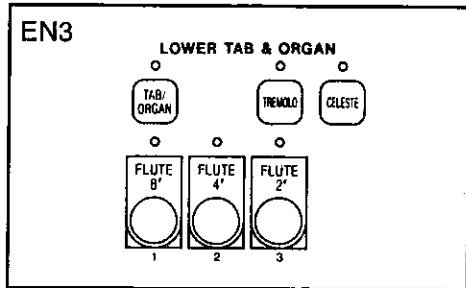


- To play the sound selected for each part (**TAB & ORGAN**, **POLY**, **SPECIAL**, **SOLO [EN4]**) on the keyboard, turn on the respective part buttons in the **ORCHESTRAL CONDUCTOR**.
- You can mix sounds on a keyboard by selecting two or more parts at the same time. (Refer to page 36.)
- The sound selected for the **SOLO** part (EN4) is monophonic: only one note sounds at a time.



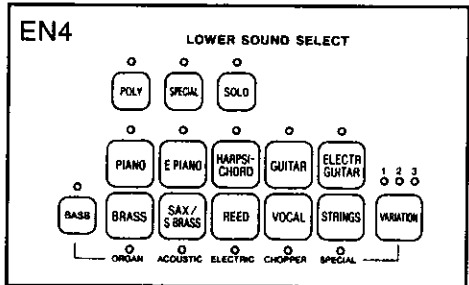
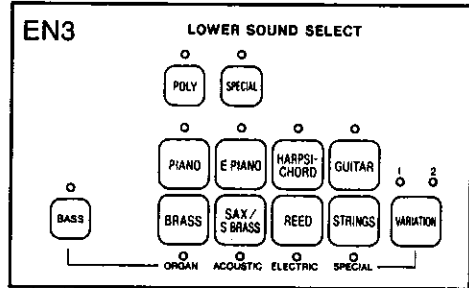
Lower keyboard sounds

E **TAB & ORGAN**
The buttons in the **LOWER TAB & ORGAN** section are for selecting **TAB** (flute) or **ORGAN** sounds for the lower keyboard.

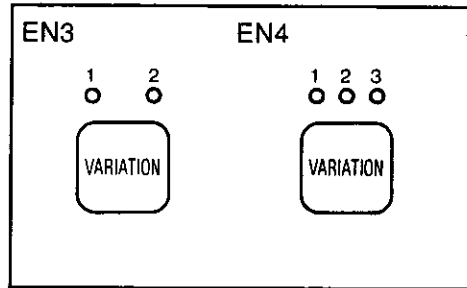


- **TAB (when the TAB/ORGAN button is off)**
Combine flute sounds by turning on the button or buttons in the **LOWER TAB & ORGAN** section. The higher the number indicated on the button, the lower the pitch of the sound.
- **ORGAN (when the TAB/ORGAN button is on)**
Select one of the sounds (EN3: 1~3, EN4: 1~4) in the **LOWER TAB & ORGAN** section.

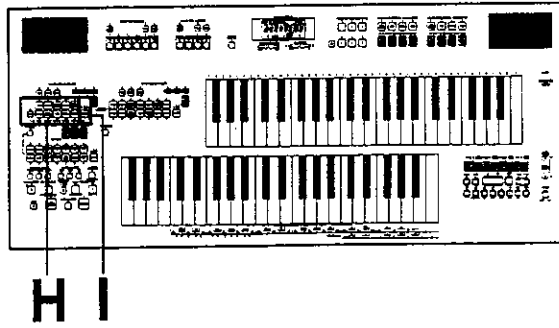
F **POLY, SPECIAL, SOLO (EN4)**
After turning on the **POLY**, **SPECIAL**, or **SOLO** (EN4) button in the **LOWER SOUND SELECT** section, you can select the sound for that part.



G **VARIATION**
Use the **VARIATION** button to select variation 1 or 2 (EN3) or 1~3 (EN4).

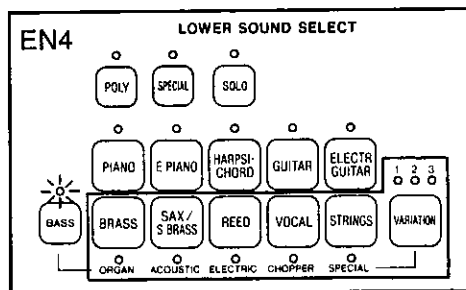
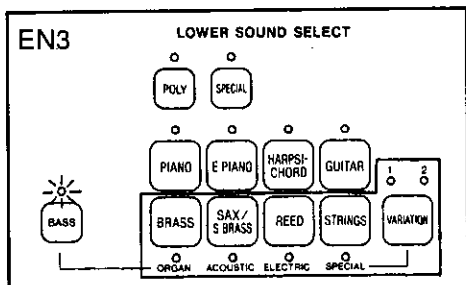


Selecting sounds: EN3/EN4



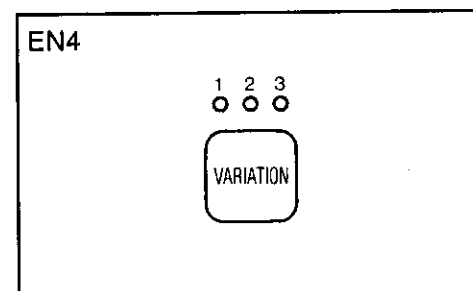
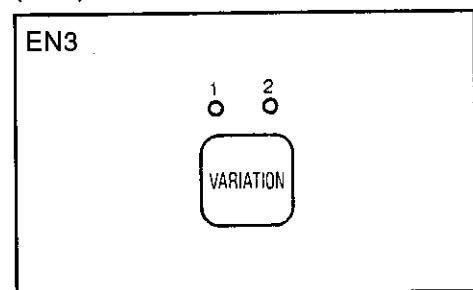
Pedal keyboard sounds

H After turning on the **BASS** button in the **LOWER SOUND SELECT** section, you can select the sounds for the pedal keyboard with the buttons in the lower row. (The names of the **BASS** sounds are indicated below the buttons in the bottom row.)



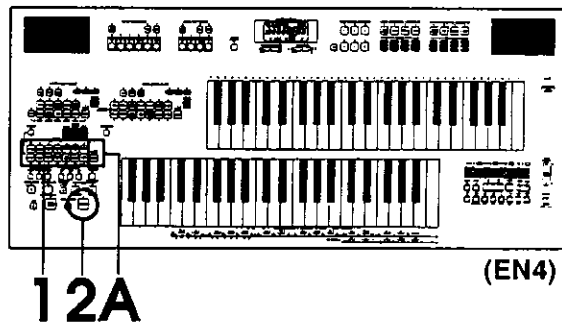
VARIATION

Use the **VARIATION** button to select variation 1 or 2 (EN3) or 1~3 (EN4).



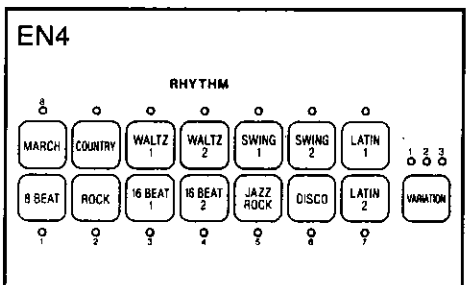
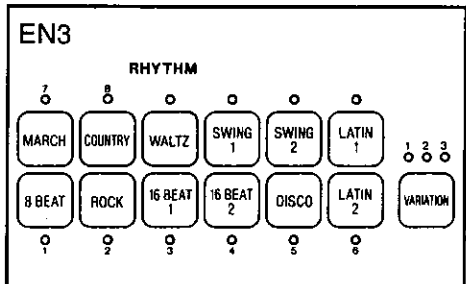
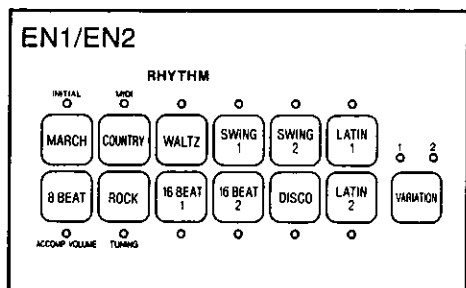
- Only one **BASS** note can sound at a time.

Playing automatic rhythms

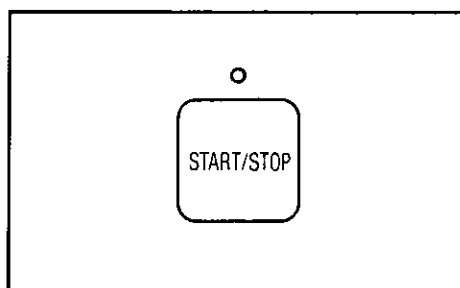


Basic functions

1 Select a rhythm pattern using the buttons in the **RHYTHM** section.



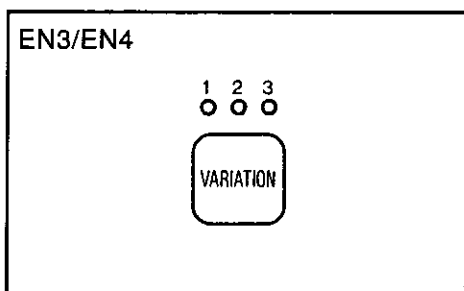
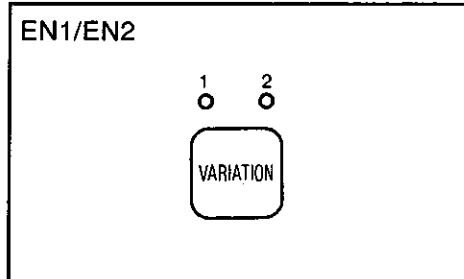
2 Start the rhythm by pressing the **START/STOP** button.

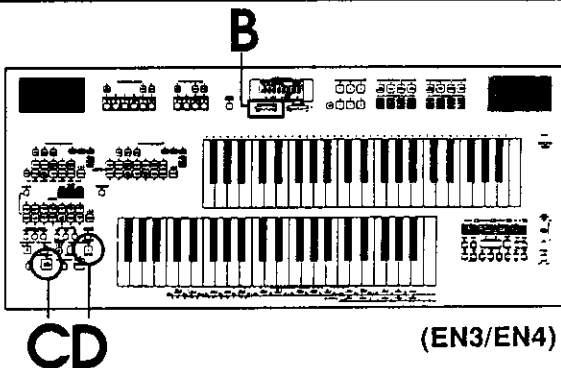
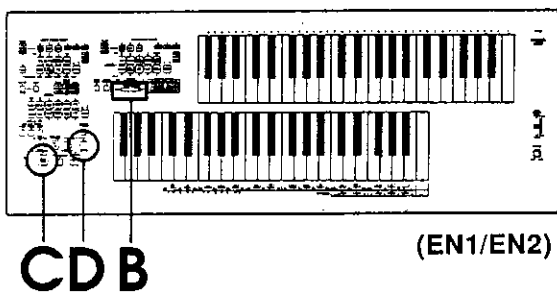


- Stop the rhythm by pressing the **START/STOP** button again.

Select a variation.

A Use the **VARIATION** button to select variation 1 or 2 (EN1/EN2) or 1~3 (EN3/EN4).

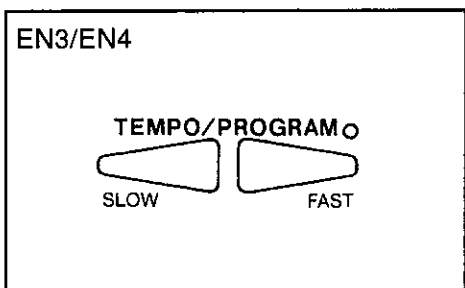
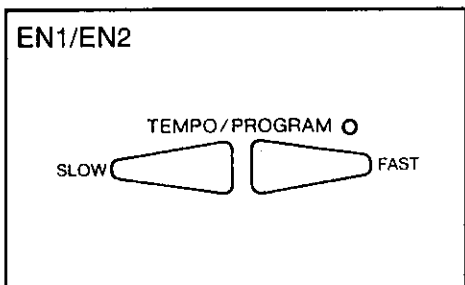




Adjust the tempo.

B

Adjust the speed with the **SLOW** and **FAST** buttons for tempo.

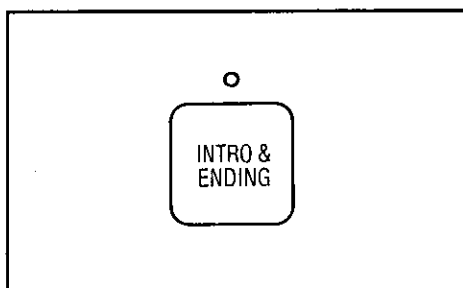


- The tempo is shown in the display as "♩=".

Insert an intro pattern.

C

To start your performance with an introduction, press the **INTRO & ENDING** button before starting the rhythm.

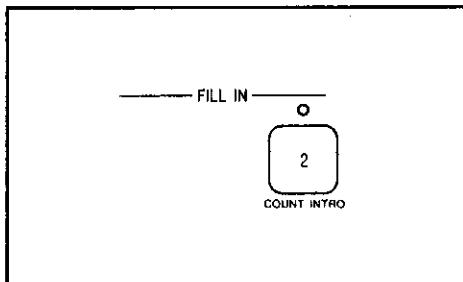


- ♪ An intro is played, after which the regular rhythm starts.

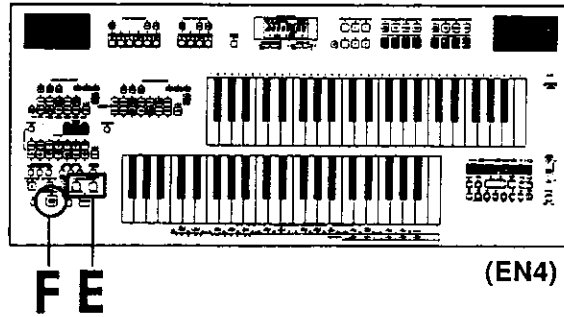
Insert a count.

D

With the rhythm stopped, turn on the **COUNT INTRO** button, and then press **START/STOP** to start the rhythm.

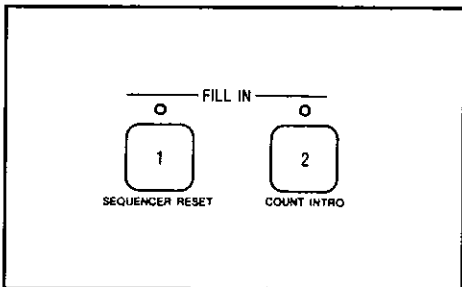


- ♪ A one-measure count is played, and then the regular rhythm begins.



Insert a fill-in pattern.

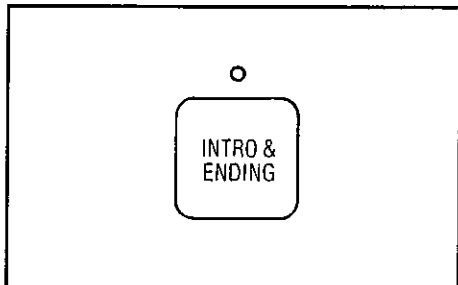
E While the preset rhythm pattern is playing, press either the **FILL IN 1** or **FILL IN 2** button.



♪ A fill-in pattern immediately starts to play.

Insert an ending pattern.

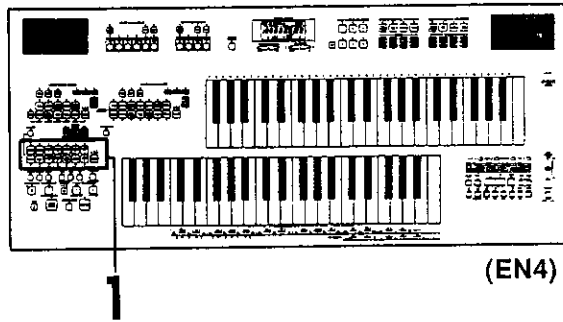
F While the rhythm is playing, press the **INTRO & ENDING** button.



♪ You will hear an ending pattern, and then the rhythm stops.

Automatic accompaniment

Use the AUTO PLAY CHORD

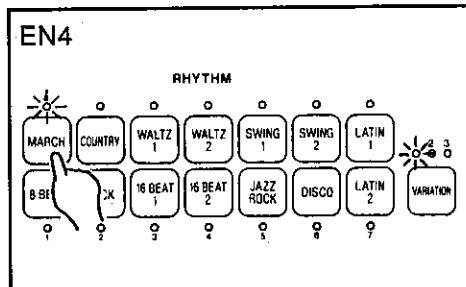
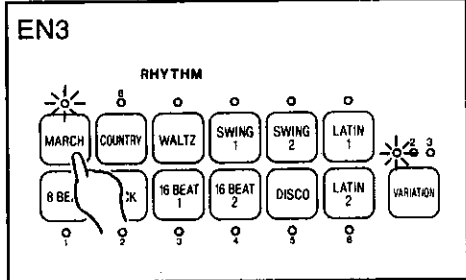
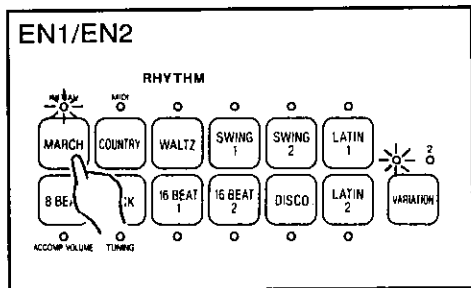


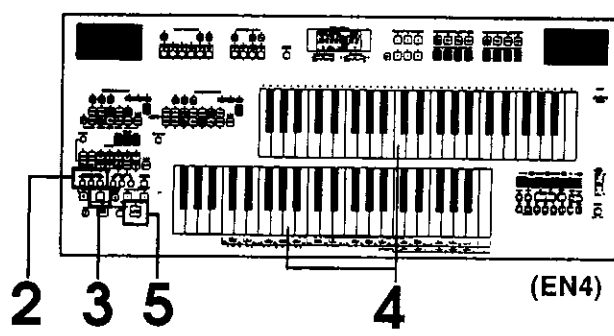
(EN4)

Use the **AUTO PLAY CHORD** with the following tune.

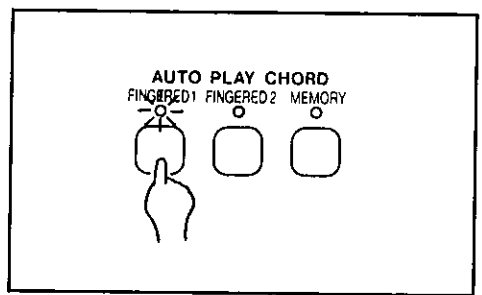
She Wore A Yellow Ribbon

1 In the **RHYTHM** section, select the **MARCH** rhythm (**VARIATION 1**).





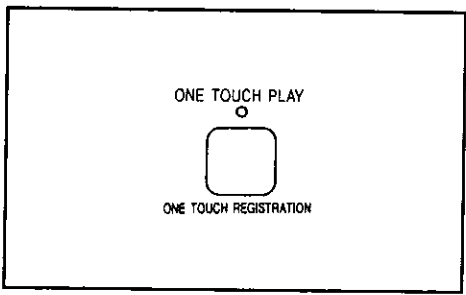
2 In the **AUTO PLAY CHORD** section, turn on the **FINGERED 1** button.



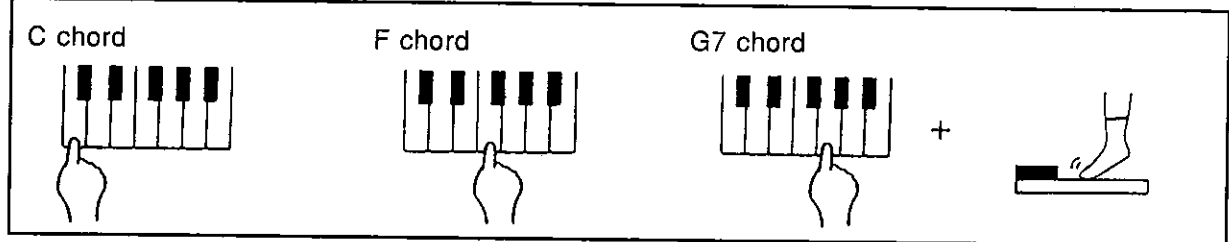
4 Use your left hand to play the chords on the lower keyboard and your right hand to play the melody on the upper keyboard.

- Pressing a key on the lower keyboard will cause the automatic rhythm pattern to start playing (synchro start).
- Where C, G7 and F are indicated in the music score, you can play the lower keyboard and pedal keyboard as shown in the diagram below.

3 Press and hold the **ONE TOUCH PLAY** button until the indicator goes out.



5 At the end of your performance, press the **START/STOP** button.



- In this example, you played chords by pressing the keys for the "root notes," but you can also specify the chord by playing all the notes in the chord. (Refer to page 53.)

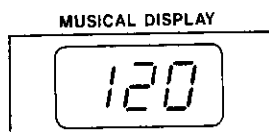
About the display

The **MUSICAL DISPLAY** is used to show the status of the instrument and to set various functions on this instrument.

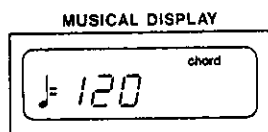
Normal performance display

On the normal display (this is, the display you can see when you are not using the special features, function-setting for example) you see the tempo of the rhythm.

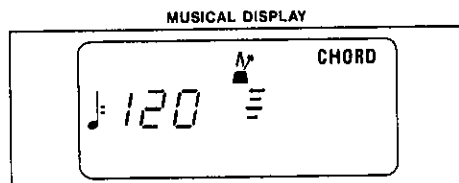
EN1



EN2



EN3/EN4



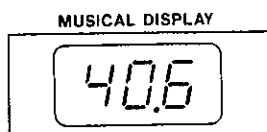
- When the automatic rhythm is playing, the metronome on the display begins swinging and the beat is indicated by the horizontal bars (EN3/EN4).
- When a chord is specified on the lower keyboard, the chord name is shown (EN2/EN3/EN4).

Function-setting display

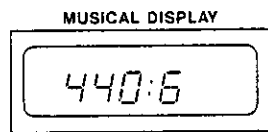
When setting any of the various functions, the corresponding display appears.

Example: When setting the **TUNING** function

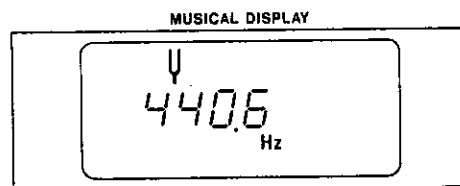
EN1



EN2



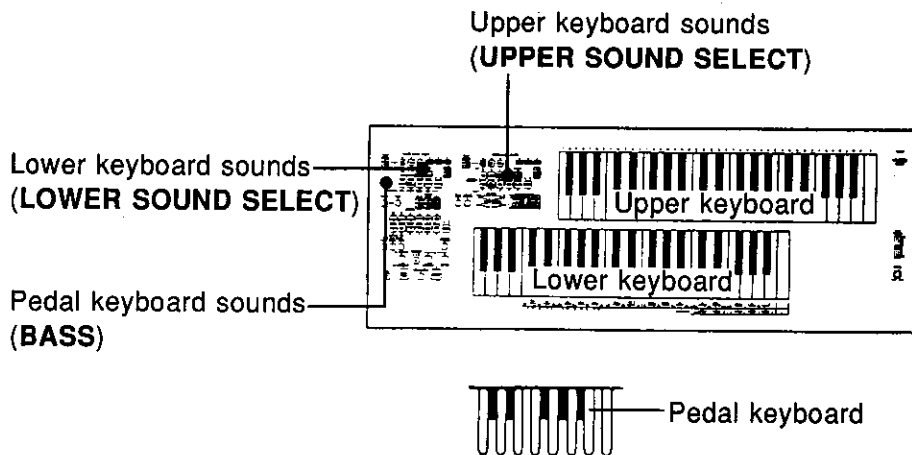
EN3/EN4



Part I Sounds and effects

How to select sounds: EN1/EN2

The sounds for the upper keyboard, lower keyboard and pedal keyboard are selected independently.



- The sounds for the upper and lower keyboards are selected by part with the **TAB & ORGAN**, **POLY**, **SOLO** (EN1: upper keyboard) and **SPECIAL** (EN2) buttons. Sounds can be combined by turning on two part buttons at the same time.
- The **TAB & ORGAN** and **POLY** parts cannot be turned on at the same time.
- **SPECIAL** cannot be selected for both the upper and lower keyboards (EN2).
- **SOLO** part sounds are monophonic, which means that only one **SOLO** note can be played at a time (EN1).

Number of notes which can be produced simultaneously for each keyboard

Upper keyboard	32 maximum (up to 8 simultaneously pressed keys can be input)
Lower keyboard	32 maximum (up to 8 simultaneously pressed keys can be input)
Pedal keyboard	1

- The maximum number of notes which can sound simultaneously for all parts combined is 32.

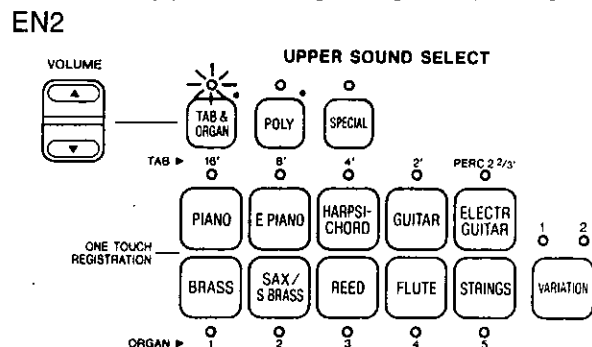
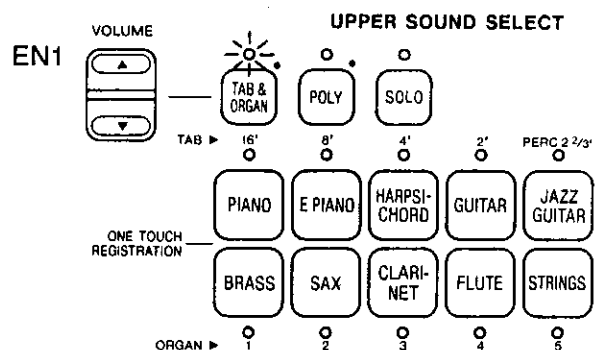
Upper keyboard sounds

Sounds are assigned to the upper keyboard parts with the **UPPER SOUND SELECT** buttons.

TAB & ORGAN

These are flute and organ sounds.

1. In the **UPPER SOUND SELECT** section, press the **TAB & ORGAN** button to turn it on.
2. Select the desired flute sound with the **TAB** buttons or organ sound with the **ORGAN** buttons.



TAB sounds

Flute sounds are selected with the **TAB** buttons (upper row). Flute sounds can be freely combined.

- The numbers above the **TAB** buttons indicate the pitch of a rank of organ pipes. The bigger the number (or length of pipe), the lower the pitch. For example, pitches of 4' rank pipes sound one octave above those of 8' rank pipes, pitches of 16' rank pipes sound one octave below.
- **PERC** adds a tone with a fast initial attack to the flute sounds; or it may be used alone. The effect is what you hear when a player strikes a piano key or plucks a banjo string.

ORGAN sounds

Organ sounds are selected with the **ORGAN** buttons (bottom row).

- Select the organ sound by referring to the numbers (1~5) which are below the **ORGAN** buttons.

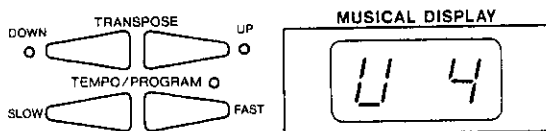
- **TAB** and **ORGAN** sounds cannot be used together.
- Press the **ORGAN** button with the lit indicator to return to the **TAB** sounds.

Reassigning organ sounds

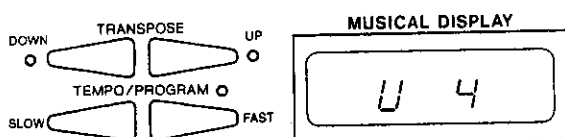
You can assign organ sounds to the **ORGAN** buttons as desired.

1. Press and hold the **TAB & ORGAN** button (2 or 3 seconds).
2. Press the **ORGAN** button to which you wish to reassign the sound.
 - The number of the organ sound currently assigned to the selected button appears on the display.

EN1



EN2



3. Use the **TRANSPOSE** buttons to specify the number of the organ sound you wish to assign to the selected button.

- Select from the following eight organ sounds
 - 1~5 Jazz organ sounds
 - 6~8 Pipe organ sounds

You can hear the organ sound of the specified number by pressing a key on the upper keyboard.

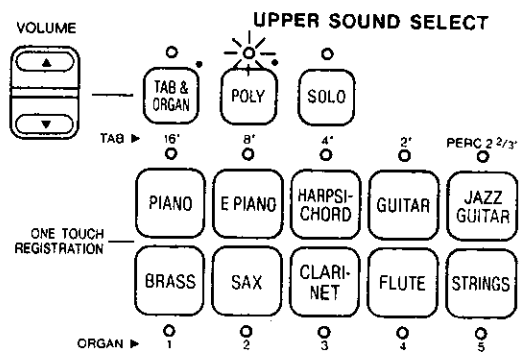
4. Repeat steps 2 and 3 if you wish to reassign organ sounds to the other **ORGAN** buttons.

5. When you have finished assigning the organ sounds, press the **TAB & ORGAN** button.

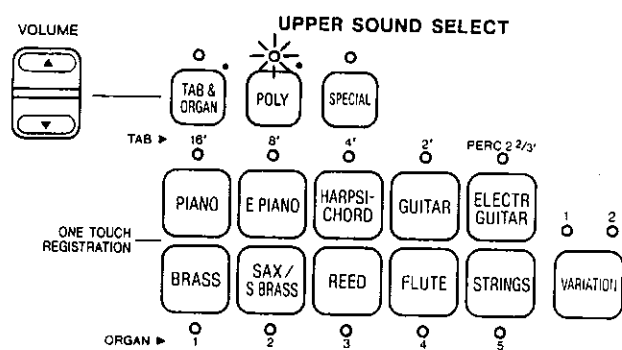
POLY, SOLO (EN1)/SPECIAL (EN2) sounds

Various instrument sounds, such as piano and strings, are preset in your organ.

EN1



EN2



1. In the **UPPER SOUND SELECT** section, select a part by pressing the **POLY**, **SOLO** (EN1), or **SPECIAL** (EN2) button to turn it on.

SOLO (EN1)

The **SOLO** sound is monophonic, which means that only one note can sound at a time. When only the **SOLO** part is selected for the upper keyboard, the **SOLO** sound is produced for the last key played.

When the **SOLO** part and another part are both selected for the upper keyboard, however, the **SOLO** sound is produced for the highest key played. This means that you can use the upper keyboard to play chords with your left hand and a **SOLO**-sound melody with your right hand, for example.

- If the interval between the highest note and the next lower note is more than one whole tone, the **SOLO** sound will not shift to the next lower key when the highest key is released.

2. Select a sound for the part by pressing an **UPPER SOUND SELECT** sound button.

VARIATION (EN2)

Two variations are available for each sound. Use the **VARIATION** button to select the desired variation (1 or 2).

- A list of sounds can be found in the separate "Sound and Rhythm Guide" provided.
- The selected variation is memorized independently for each sound of each part. This means that once you select a variation number for a sound in a part, the same number is recalled each time you select the same part and sound.

3. Repeat steps 1 and 2 to select the sound for the other part.
- You can change the sound assigned to the upper keyboard while you are playing, simply by selecting another part button. You can also mix sounds on a keyboard. (Refer to page 31.)

Lower keyboard sounds

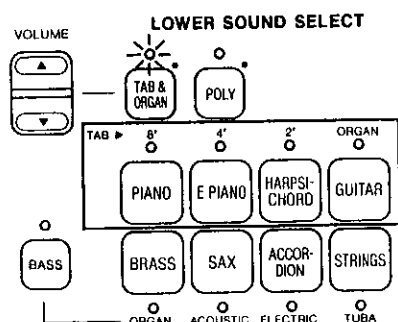
Sounds are assigned to the lower keyboard parts with the **LOWER SOUND SELECT** buttons.

TAB & ORGAN

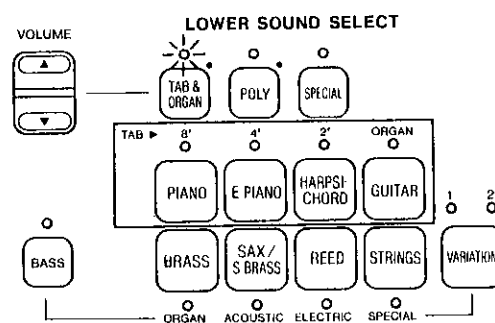
These are flute and organ sounds.

1. In the **LOWER SOUND SELECT** section, press the **TAB & ORGAN** button to turn it on.
2. Select the desired flute sound with the **TAB** buttons or the organ sound with the **ORGAN** button.

EN1



EN2



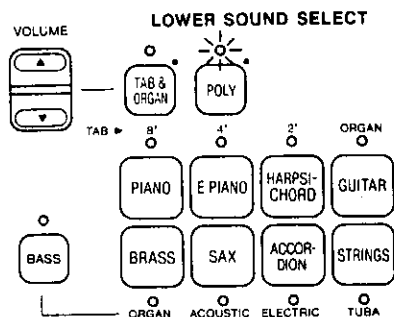
- Flute sounds are selected with the three **TAB** buttons (8', 4', 2') and the organ sound with the **ORGAN** button in the upper row.
- **TAB** and **ORGAN** sounds are selected in the same way as for the upper keyboard. (Refer to page 31.)

- The desired organ sound can be assigned to the **ORGAN** button in the same way as for the **UPPER TAB & ORGAN**. (Refer to page 32.)

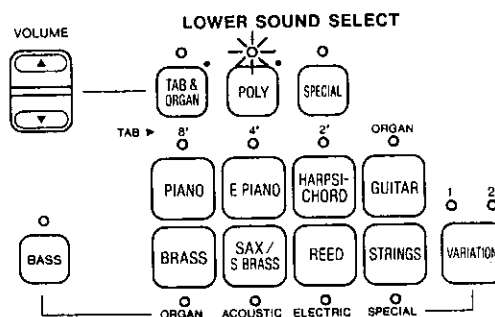
POLY, SPECIAL (EN2) sounds

The sounds for the lower keyboard are selected with the buttons in the **LOWER SOUND SELECT** section.

EN1



EN2



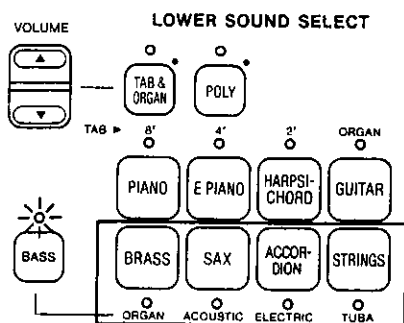
The sounds are selected in the same way as for the upper keyboard. (Refer to page 33.)

Pedal keyboard sounds

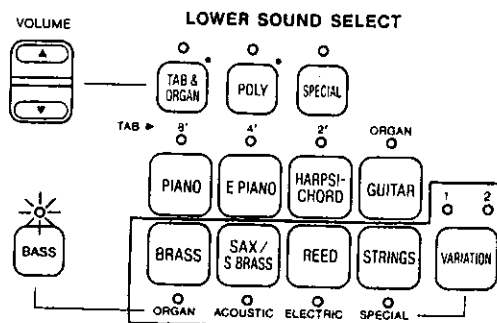
Sounds are assigned to the pedal keyboard with the **BASS** button in the **LOWER SOUND SELECT** section.

1. In the **LOWER SOUND SELECT** section, press the **BASS** button to turn it on.

EN1



EN2



2. Select the sound for the pedal keyboard by pressing one of the buttons in the lower row.

- The names of the **BASS** sounds are indicated below the buttons in the bottom row.

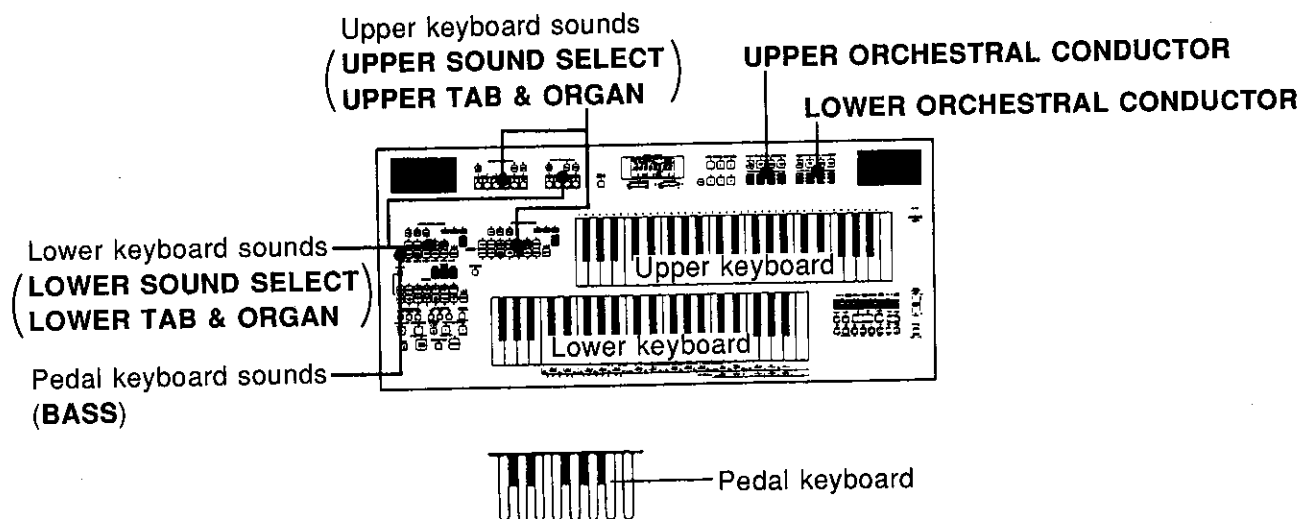
VARIATION (EN2)

Two variations are available for each **BASS** sound. Use the **VARIATION** button to select the desired variation (1 or 2).

- You can hear the selected **BASS**-sound variation by playing the pedal keyboard.
 - The variation is memorized independently for each **BASS** sound. Once a variation number is selected for a **BASS** sound, the same number is recalled each time you select that sound.
- A few seconds after you choose the **BASS** sound, the **BASS** indicator turns off, and the indicators for the current lower keyboard sound turn on again.

How to select sounds: EN3/EN4

The sounds for the upper keyboard, lower keyboard and pedal keyboard are selected independently.



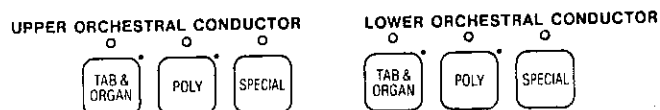
Practical applications

- The sounds for the upper and lower keyboards are divided into the **TAB & ORGAN**, **POLY**, **SPECIAL**, and **SOLO** (EN4) parts. The **ORCHESTRAL CONDUCTOR** is used to assign the desired parts to the keyboards.

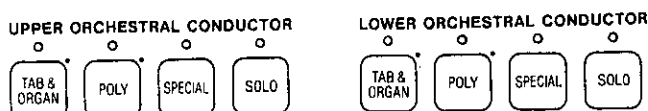
Orchestral Conductor

The desired part is assigned to the upper keyboard with the **UPPER ORCHESTRAL CONDUCTOR** buttons and to the lower keyboard with the **LOWER ORCHESTRAL CONDUCTOR** buttons.

EN3



EN4



- By assigning sounds to each part beforehand, you can easily select a different sound while you are playing simply by pressing a different **ORCHESTRAL CONDUCTOR** button.

- You can mix sounds by pressing two or more part buttons at the same time. (However, the **TAB & ORGAN** and **POLY** parts cannot be selected at the same time. Also, neither **SPECIAL** nor **SOLO** [EN4] can be selected for both the upper and lower keyboard at the same time.)
- SOLO** part sounds are monophonic, which means that only one **SOLO** note can be played at a time (EN4).

Number of notes which can be produced simultaneously for each keyboard

Upper keyboard	32 maximum (up to 8 simultaneously pressed keys can be input)
Lower keyboard	32 maximum (up to 8 simultaneously pressed keys can be input)
Pedal keyboard	1

- The maximum number of notes which can sound simultaneously for all parts combined is 32.

Upper keyboard sounds

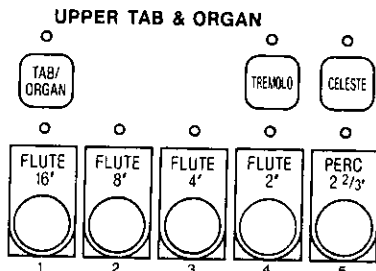
Sounds are assigned to the upper keyboard parts with the **UPPER TAB & ORGAN** and **UPPER SOUND SELECT** buttons.

UPPER TAB & ORGAN

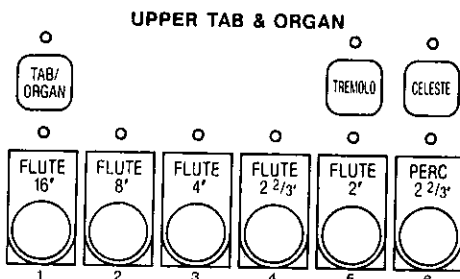
These are flute and organ sounds.

1. Select the desired flute sound or organ sound with the **UPPER TAB & ORGAN** buttons.

EN3



EN4



FLUTE sounds

The **FLUTE** sounds can be selected when the **TAB/ORGAN** button is off. **FLUTE** sounds can be freely combined.

- The numbers on the **FLUTE** buttons indicate the pitch of a rank of organ pipes. The bigger the number (or length of pipe), the lower the pitch. For example, pitches of 4' rank pipes sound one octave above those of 8' rank pipes, pitches of 16' rank pipes sound one octave below.
- **PERC** adds a tone with a fast initial attack to the **FLUTE** sounds; or it may be used alone. The effect is what you hear when a player strikes a piano key or plucks a banjo string.

ORGAN sounds

Organ sounds can be selected with the **FLUTE** buttons when the **TAB/ORGAN** button is on.

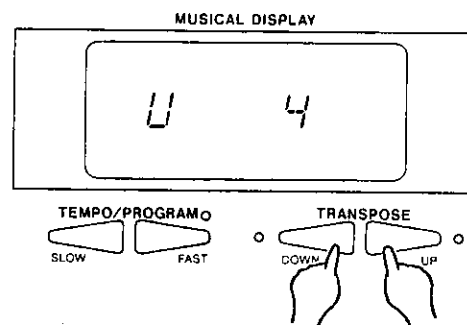
- Select the organ sound by referring to the numbers below the **FLUTE** buttons. Select from 1~5 (EN3) or 1~6 (EN4).

2. In the **UPPER ORCHESTRAL CONDUCTOR**, press the **TAB & ORGAN** button to turn it on. Playing the upper keyboard will produce the selected **FLUTE** or **ORGAN** sound.

Reassigning organ sounds

You can assign organ sounds to the **FLUTE** buttons as desired.

1. Press and hold the **TAB/ORGAN** button (2 or 3 seconds).
2. Press the **FLUTE** button to which you wish to reassign the sound.
 - The number of the organ sound currently assigned to the selected button appears on the display.

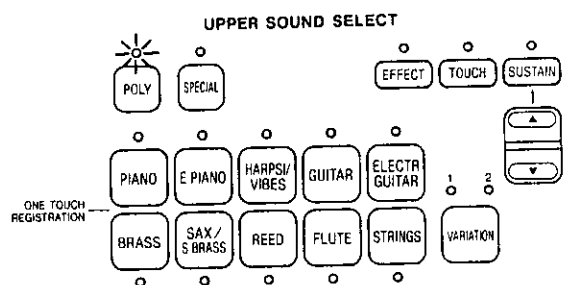


3. Use the **TRANPOSE** buttons to specify the number of the organ sound you wish to assign to the selected button.
 - Select from the following ten organ sounds.
 - 1~7 Jazz organ sounds
 - 8~10 Pipe organ sounds
 You can hear the organ sound of the specified number by pressing a key on the upper keyboard.
4. Repeat steps 2 and 3 if you wish to reassign organ sounds to the other **FLUTE** buttons.
5. When you have finished assigning the organ sounds, press the **TAB/ORGAN** button.

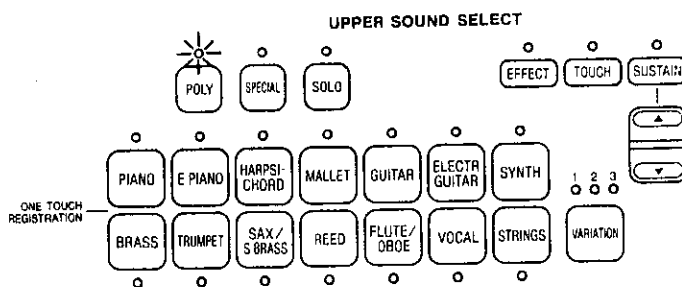
UPPER SOUND SELECT

Various instrument sounds, such as piano and strings, are preset in your organ.

EN3



EN4



1. In the **UPPER SOUND SELECT** section, select a part by pressing the **POLY**, **SPECIAL**, or **SOLO** (EN4) button to turn it on.

SOLO (EN4)

The **SOLO** sound is monophonic, which means that only one note can sound at a time. When only the **SOLO** part is selected for the upper keyboard, the **SOLO** sound is produced for the last key played.

When the **SOLO** part and another part are both selected for the upper keyboard, however, the **SOLO** sound is produced for the highest key played. This means that you can use the upper keyboard to play chords with your left hand and a **SOLO**-sound melody with your right hand, for example.

- If the interval between the highest note and the next lower note is more than one whole tone, the **SOLO** sound will not shift to the next lower key when the highest key is released.

2. Select a sound for the part by pressing an **UPPER SOUND SELECT** button.

VARIATION

Two (EN3) or three (EN4) variations are available for each sound. Use the **VARIATION** button to select the desired variation.

- A list of sounds can be found in the separate "Sound and Rhythm Guide" provided.
- The selected variation is memorized independently for each sound of each part. This means that once you select a variation number for a part and sound, the same number is recalled each time you select the same part and sound.

3. Repeat steps 1 and 2 to select the sound for the other part(s).
4. In the **UPPER ORCHESTRAL CONDUCTOR** section, turn on the **POLY**, **SPECIAL** or **SOLO** (EN4) button.
 - ♪ Playing the upper keyboard will produce the selected sound.
 - You can change the sound assigned to the upper keyboard while you are playing, simply by selecting another part button. You can also mix sounds on a keyboard. (Refer to page 36.)

Lower keyboard sounds

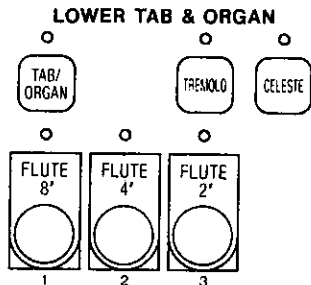
Sounds are assigned to the lower keyboard parts with the **LOWER TAB & ORGAN** and **LOWER SOUND SELECT** buttons.

LOWER TAB & ORGAN

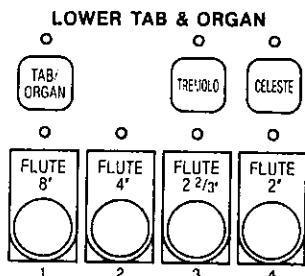
These are flute and organ sounds.

1. Select the desired flute sound or organ sound with the buttons in the **LOWER TAB & ORGAN** section.

EN3



EN4

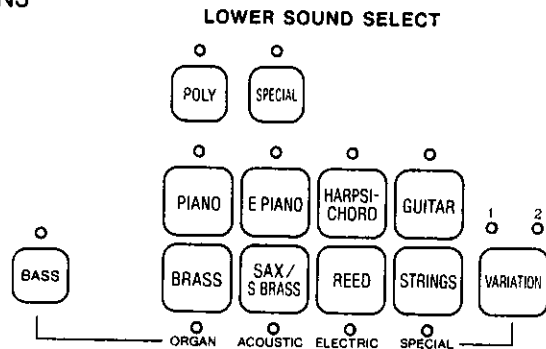


- The lower keyboard **TAB** and **ORGAN** sounds are selected in the same way as for the upper keyboard. (Refer to page 37.)
 - You can assign organ sounds to the **ORGAN** buttons as desired the same as for the **UPPER TAB & ORGAN**. (Refer to page 37.)
2. In the **LOWER ORCHESTRAL CONDUCTOR**, press the **TAB & ORGAN** button to turn it on.
 - ♪ Playing the lower keyboard will produce the selected **FLUTE** or **ORGAN** sound.

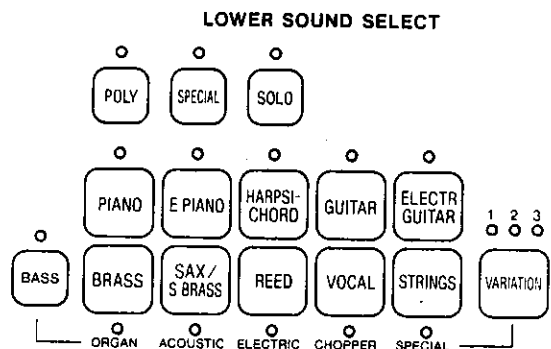
LOWER SOUND SELECT

The sounds for the lower keyboard are selected with the buttons in the **LOWER SOUND SELECT** section.

EN3



EN4



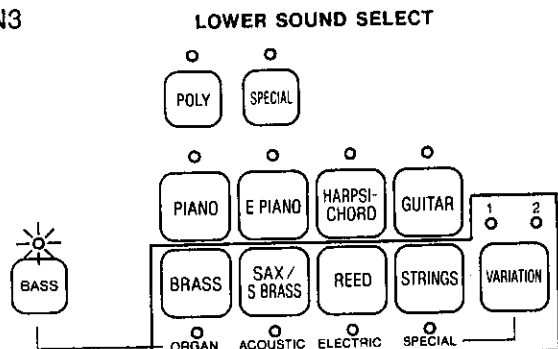
The sounds are selected in the same way as for the upper keyboard.

Pedal keyboard sounds

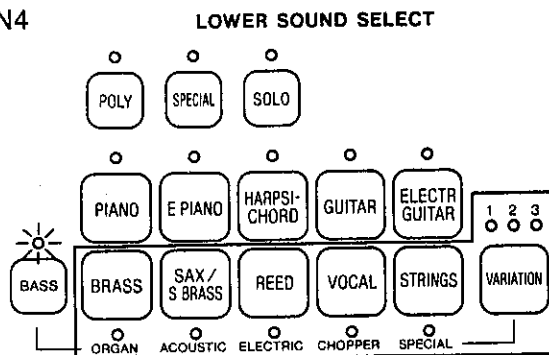
Sounds are assigned to the pedal keyboard with the **BASS** button in the **LOWER SOUND SELECT** section.

- In the **LOWER SOUND SELECT** section, press the **BASS** button to turn it on.

EN3



EN4



- Select the sound for the pedal keyboard by pressing one of the buttons in the lower row.
 - The names of the **BASS** sounds are indicated below the buttons.

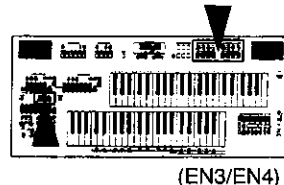
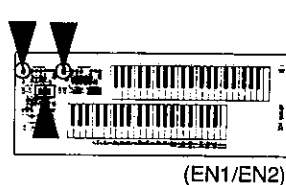
VARIATION

Two (EN3) or three (EN4) variations are available for each **BASS** sound. Use the **VARIATION** button to select the desired variation.

- You can hear the selected **BASS**-sound variation by playing the pedal keyboard.
- The variation is memorized independently for each **BASS** sound. Once a variation number is selected for a **BASS** sound, the same number is recalled each time you select that sound.

Balance

The volume of each part is adjusted separately.

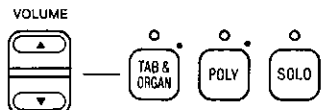


Upper and lower keyboard volumes: EN1/EN2

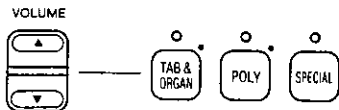
The volumes of the upper keyboard parts are adjusted with the **VOLUME** buttons in the **UPPER SOUND SELECT** section, and of the lower keyboard parts with the **VOLUME** buttons in the **LOWER SOUND SELECT** section.

Press the desired part button, and then adjust the volume.

EN1

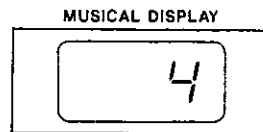


EN2

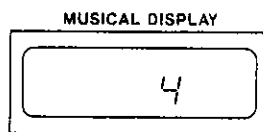


- Pressing the ▲ button increases the volume; pressing the ▼ button decreases the volume.
- The volume of the selected part is indicated on the display as a number from 0 (off) to 9 (maximum).

EN1



EN2



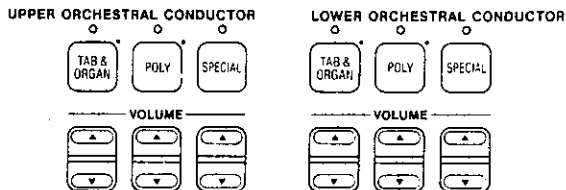
- The display automatically returns to the normal performance display after a few seconds.

Practical applications

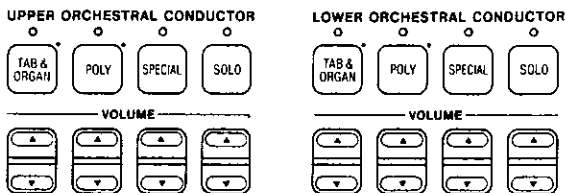
Upper and lower keyboard volumes: EN3/EN4

The volumes of the upper keyboard parts are adjusted with the **VOLUME** buttons in the **UPPER ORCHESTRAL CONDUCTOR**, and of the lower keyboard parts with the **VOLUME** buttons in the **LOWER ORCHESTRAL CONDUCTOR**.

EN3

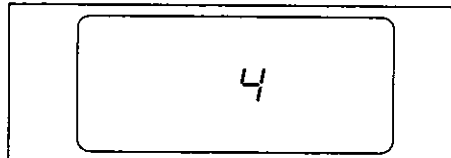


EN4



- Pressing the ▲ button increases the volume; pressing the ▼ button decreases the volume.
- The volume of the selected part is indicated on the display as a number from 0 (off) to 9 (maximum).

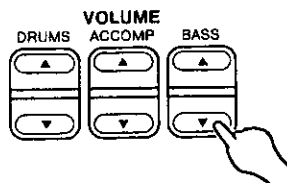
MUSICAL DISPLAY



- The display automatically returns to the normal performance display after a few seconds.

Pedal keyboard volume

The pedal keyboard volume is adjusted with the **BASS** buttons in the **VOLUME** section.



- The volume is indicated on the display as a number from 0 to 9.
- The display automatically returns to the normal performance display after a few seconds.

Effects

Various effects add character to the selected sound.

EFFECT

EFFECT gives the sound greater depth and breadth.

1. In the **UPPER** or **LOWER SOUND SELECT** section, turn on a part button.
2. Press the **EFFECT** button to turn it on.



- ♪ The effect is applied to the part you selected in step 1.
- EN1/EN2: When this button is on for the **TAB & ORGAN** part, a tremolo effect is applied. (Refer to page 43.)
- This effect differs depending on the selected sound.

TOUCH (EN2/EN3/EN4)

When the **TOUCH** effect is on, you control the volume by playing the keys harder or softer, as in a piano.

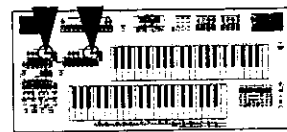
1. Turn on a part button.
2. Press the **TOUCH** button to turn it on.



- ♪ The effect is applied to the part you selected in step 1.
- The level of this effect can also be set independently for each keyboard. (Refer to page 74 [EN2] or page 77 [EN3/EN4].)
- The effect is not applied to the **TAB & ORGAN** and **BASS** parts.



(EN1/EN2)



(EN3/EN4)

SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

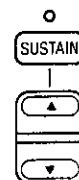
1. Turn on a part button.
2. Press the **SUSTAIN** button to turn it on.



- ♪ The effect is applied to the part you selected in step 1.
- This effect differs depending on the selected sound.

Adjusting the sustain

The length of the sustain can be adjusted with the buttons below the **SUSTAIN** button.



- Pressing the **▲** button increases the length of the sustain; pressing the **▼** button decreases it.
- The sustain length can be set to a value from 1 to 8, as indicated on the display.
- The display automatically returns to the normal performance display after a few seconds.

The **SUSTAIN** setting for the **POLY** part is also effective for the **TAB & ORGAN** sounds (EN3/EN4).

TREMOLO

TREMOLO is a rapid oscillation in volume, producing the effect of a rotating speaker. The **TREMOLO** effect can be used with the upper and/or lower **TAB & ORGAN** sounds.

EN1/EN2

1. In the **UPPER SOUND SELECT** or **LOWER SOUND SELECT** section, press the **TAB & ORGAN** button to turn it on.
2. Press the **EFFECT** button to turn it on.



EN3/EN4

In the **UPPER TAB & ORGAN** or **LOWER TAB & ORGAN** section, turn on the **TREMOLO** button.

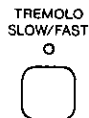


- ♪ The **TREMOLO** effect is applied to the respective **UPPER TAB & ORGAN** or **LOWER TAB & ORGAN** sounds.

TREMOLO SLOW/FAST

Choose from two tremolo speeds with the **TREMOLO SLOW/FAST** button.

- When this button is on, the speed is faster.
- The tremolo speed can be adjusted. (Refer to page 74 [EN1/EN2] or page 77 [EN3/EN4].)



CELESTE (EN3/EN4)

This is the beautiful wide effect of many instruments playing in unison. The **CELESTE** effect can be used with the upper and/or lower **TAB & ORGAN** sounds.

In the **UPPER TAB & ORGAN** or **LOWER TAB & ORGAN** section, turn on the **CELESTE** button.

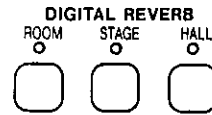


- ♪ The **CELESTE** effect is applied to the respective **UPPER TAB & ORGAN** or **LOWER TAB & ORGAN** sounds.

DIGITAL REVERB (EN3/EN4)

DIGITAL REVERB applies a reverberation effect to the sound of the whole organ, including the automatic rhythm sounds.

Press one of the **DIGITAL REVERB** buttons to turn it on.

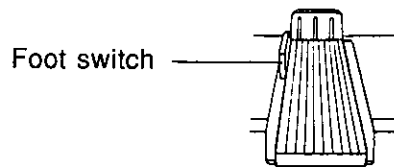


- **ROOM** is the minimum, **STAGE** is the medium, and **HALL** is the maximum amount of this effect.
- The depth of the reverberation can be adjusted. (Refer to page 76.)

Glide control

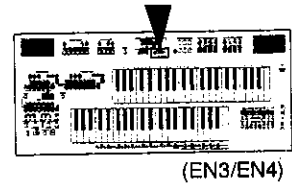
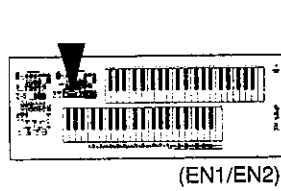
The foot switch, located on the left side of the expression pedal, is used as a glide control.

When pressed to the left with the side of your foot, it lowers the pitch of the organ about one half-tone. When released, the pitch returns to normal.



- A fast glide effect is applied when the foot switch is released quickly.
- The glide effect does not function for the lower keyboard and pedal keyboard sounds and for some other sounds.
- Other functions can be assigned to the foot switch. (Refer to page 74 [EN1/EN2] or page 78 [EN3/EN4].)

Transpose



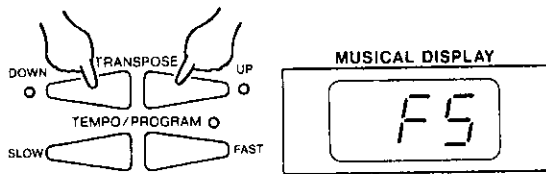
The **TRANSPOSE** buttons are used to change the key of the entire instrument in semi-tone steps across an entire octave.

Suppose you learn to play a song—in the key of C, for example—and decide you want to sing it, only to find it's either too high or too low for your voice. Your choice is to either learn the song all over again, in a different key, or to use the **TRANSPOSE** feature.

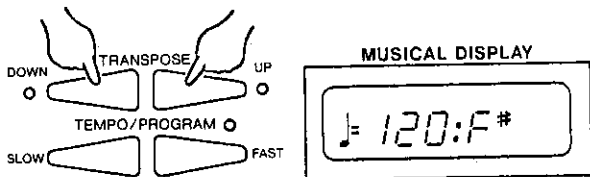
Adjust the key with the **UP** and **DOWN** buttons.

- The current key is indicated on the display.

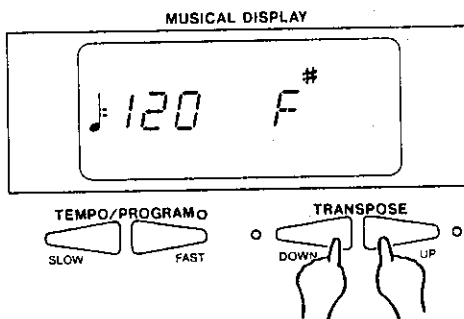
EN1



EN2



EN3/EN4

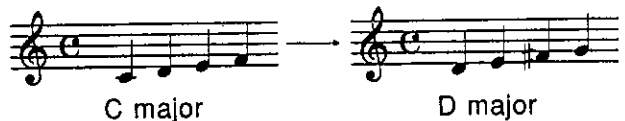


- Each press of the **UP** button changes the key as follows: D \flat → D → E \flat → E → F → F \sharp . Each press of the **DOWN** button changes the key as follows: B → B \flat → A → A \flat → G.
- EN1: A sharp is indicated by \sharp and a flat by \flat on the display.
- If the two buttons are pressed at the same time, the key returns to C.
- The **UP** or **DOWN** indicator lights when the corresponding button is pressed.
- The display automatically returns to the normal performance display after a few seconds.
- When the **TRANSPOSE** function is active, the C key will sound the note shown on the display.

Example: transposed to D

Played keys

Notes that sound



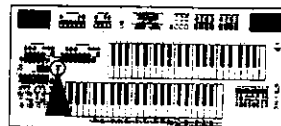
C major

D major

Techni-chord



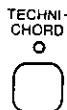
(EN1/EN2)



(EN3/EN4)

TECHNI-CHORD transfers the chord notes you play on the lower keyboard to each melody note you play on the upper keyboard.

1. Press the **TECHNI-CHORD** button to turn it on.



- **TECHNI-CHORDs** cannot be played using the lowest octave (F~B) of the upper keyboard.
- **TECHNI-CHORD** also works with the **AUTO PLAY CHORD** feature (refer to page 52) for a more effective performance.

2. Play the example below, playing the chords on the lower keyboard and the melody on the upper keyboard.

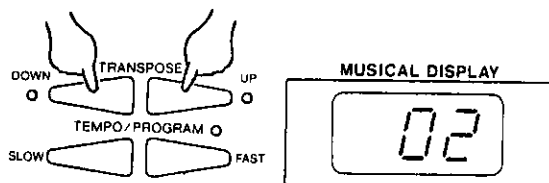


Harmony style

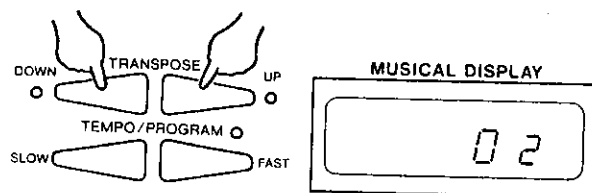
You can select the desired **TECHNI-CHORD** harmony style.

1. Press and hold the **TECHNI-CHORD** button until the display changes (2 or 3 seconds).
 - The current harmony style is indicated on the display.
2. Use the **TRANSCOPE** buttons to select the desired harmony style: C (closed), O1 (open 1), O2 (open 2) or d (EN1)/D (EN2/EN3/EN4) (duet).
 - The display automatically returns to the normal performance display after a few seconds.

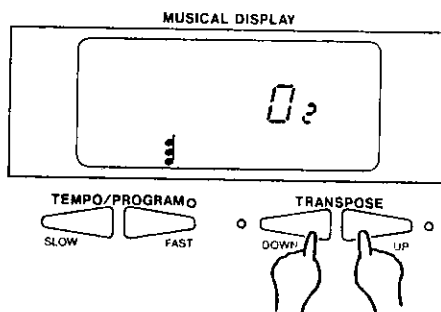
EN1



EN2

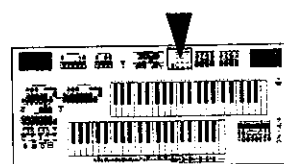


EN3/EN4



Practical applications

Voice Setting Computer (EN3/EN4)



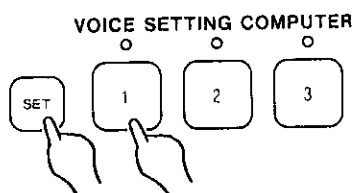
The **VOICE SETTING COMPUTER** allows you to change the panel settings of the entire organ at the touch of a single button.

There are 3 storable memories for the EN3 and 6 for the EN4.

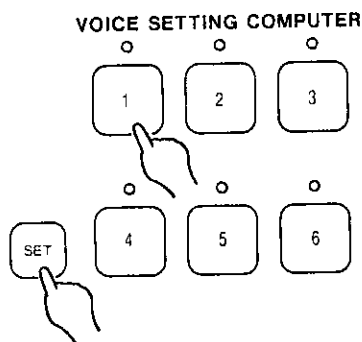
Example of storing the panel settings

1. Select the desired sounds, effects and volumes for each part, and assign the desired parts to the keyboards.
2. With the **SET** button held down, press the 1 button of the **VOICE SETTING COMPUTER**.

EN3



EN4



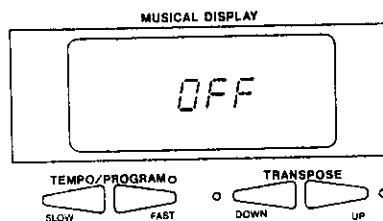
This procedure stores the current panel settings in **VOICE SETTING COMPUTER** location 1.

- To recall the stored settings, just press the corresponding numbered button. You can then manually change the sounds and effects, etc.; however, the memory contents in the **VOICE SETTING COMPUTER** remain unchanged until you store them again.
- When storing the panel settings in a numbered button, any previously stored settings are automatically replaced by the new ones.

Range of storable settings

You can select the range of settings which are stored in the **VOICE SETTING COMPUTER**.

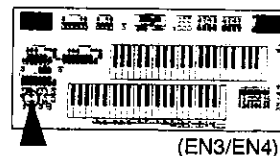
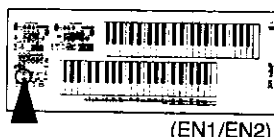
1. Press and hold the **SET** button until the display changes.
2. Use the **TRANSPOSE** buttons to select on or OFF.



Mode	Panel settings which are stored
OFF	Sounds, effects and volumes for each part, TECHNI-CHORD status, ORCHESTRAL CONDUCTOR settings
ON	In addition to the above settings: RHYTHM selection, tempo setting, AUTO PLAY CHORD status

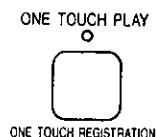
- The display automatically returns to the normal performance display after a few seconds.

One Touch Registration



With the **ONE TOUCH REGISTRATION** feature, the sounds, effects and volumes which match those you set for the upper keyboard are automatically set for the lower and pedal keyboards in seconds, and you are ready to play immediately.

1. In the **UPPER SOUND SELECT** section, select the sound you want for the upper keyboard.
2. While pressing and holding the desired sound button, press the **ONE TOUCH REGISTRATION** button.



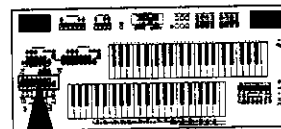
- ♪ The sound settings for the lower and pedal keyboards and the effect and volume settings change to those matching the upper keyboard sound.
- When the **ONE TOUCH REGISTRATION** function is used, the volumes for the automatic accompaniment (**ACCOMP**) become 0 and the accompaniment cannot be heard.
- The sound you choose in step 1 is unrelated to the **ORCHESTRAL CONDUCTOR** and **VARIATION** settings.
- EN1/EN2/EN3: When this function is used, a sound different from that of the specified **SOUND SELECT** button may be produced.

Part II Playing the rhythm

Rhythm



(EN1/EN2)



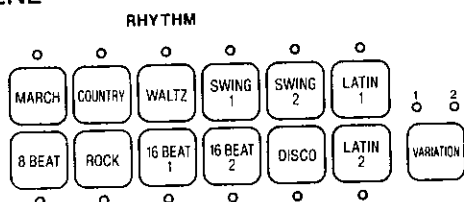
(EN3/EN4)

The **RHYTHM** section provides automatic performance of rhythm patterns with realistic percussion instrument sounds.

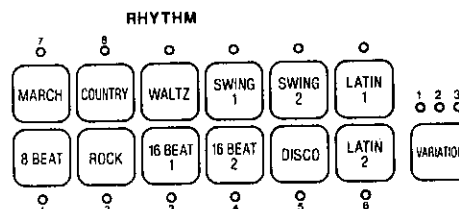
Select a rhythm

Select the desired rhythm pattern using the buttons in the **RHYTHM** section.

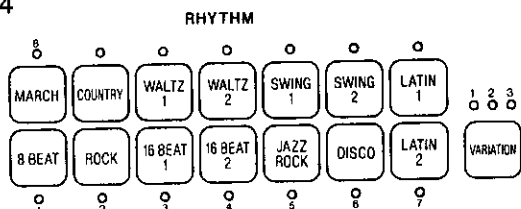
EN1/EN2



EN3



EN4



VARIATION

Two (EN1/EN2) or three (EN3/EN4) variations are available for each rhythm pattern. Use the **VARIATION** button to select the desired variation.

- A list of automatic rhythms can be found in the separate "Sound and Rhythm Guide" provided.

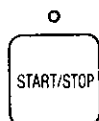
- The selected variation is memorized independently for each rhythm pattern. Once a variation number for a rhythm pattern is selected, the same number is recalled each time the same rhythm pattern is selected.

Start the rhythm

There are two ways to start the rhythm.

■ Immediate rhythm start

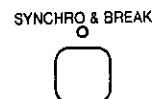
Press the **START/STOP** button to turn it on.



- ♪ The selected rhythm pattern immediately begins to play.
- The indicator flashes at the beginning of each measure.
- You can stop the rhythm by pressing the **START/STOP** button again to turn it off.

■ Synchronized start

1. Press the **SYNCHRO & BREAK** button to turn it on.

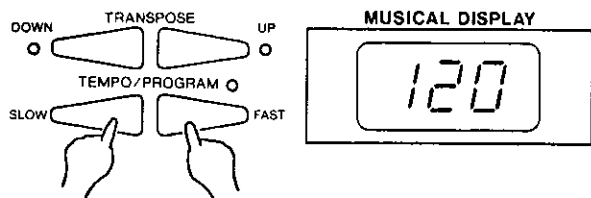


2. Play a key on the lower keyboard or pedal keyboard.
- ♪ The selected rhythm pattern begins to play.
- You can stop the rhythm by pressing the **START/STOP** button.
- If the **AUTO PLAY CHORD** (explained later) is used, however, the rhythm cannot be started with the pedal keyboard.

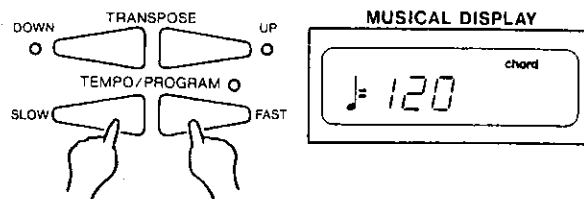
Adjust the tempo

The tempo of the rhythm pattern is adjusted with the **TEMPO/PROGRAM** buttons.

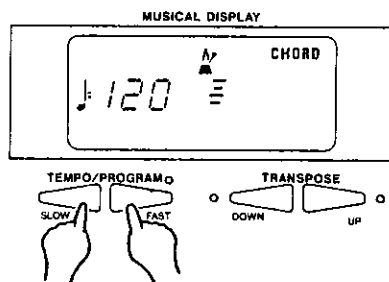
EN1



EN2



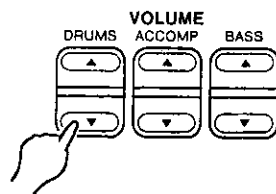
EN3/EN4



- The tempo increases each time the **FAST** button is pressed and decreases each time the **SLOW** button is pressed.
- The tempo is shown on the display as a numerical value (♩ = 40~300).
- Keep a button pressed to change the tempo continuously.
- If the two buttons are pressed at the same time, the tempo returns to the standard setting of 120.

Adjust the volume

The volume of the drums is adjusted with the **DRUMS** buttons in the **VOLUME** section.



- The volume is shown on the display as a numerical value from 0 (off) to 9 (maximum).

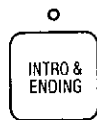
Playing the rhythm

Intro, fill-in and ending patterns matching each different rhythm pattern are permanently recorded in your instrument, thus allowing a versatile rhythm performance.

INTRO

Begin the rhythm performance with an intro pattern.

1. Press the **INTRO & ENDING** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.

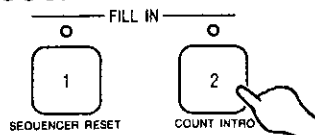


♪ An intro pattern is played, after which the normal rhythm pattern begins.

COUNT INTRO

You can begin the rhythm performance with a one-measure count.

1. Press the **COUNT INTRO** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.



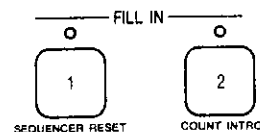
♪ A one-measure count is played, after which the normal rhythm pattern begins.

FILL IN

You can insert a fill-in pattern any time during the rhythm performance. Choose from two different fill-in patterns.

1. Select a rhythm and press the **START/STOP** button.

2. Press the **FILL IN 1** or **FILL IN 2** button.



♪ A fill-in pattern is heard immediately for the remainder of the measure.

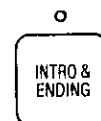
- When a **FILL IN** button is pressed on the last beat of the measure, the fill-in pattern continues to the end of the following measure.

ENDING

Finish the rhythm performance with an ending pattern.

1. Select a rhythm and press the **START/STOP** button.

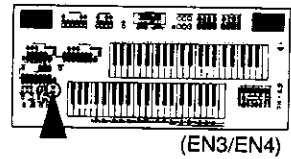
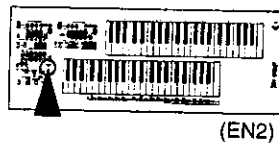
2. Press the **INTRO & ENDING** button.



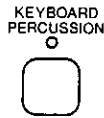
♪ An ending pattern is produced, and then the rhythm performance stops.

- If you accidentally press the **INTRO & ENDING** button in the middle of the tune, you can press the **FILL IN 1** or **FILL IN 2** button. The ending pattern stops, and a fill-in pattern is produced, after which the normal rhythm performance continues.

Keyboard Percussion (EN2/EN3/EN4)



Press the **KEYBOARD PERCUSSION** button on to turn your lower keyboard into a whole band of percussion instruments and other special sounds.



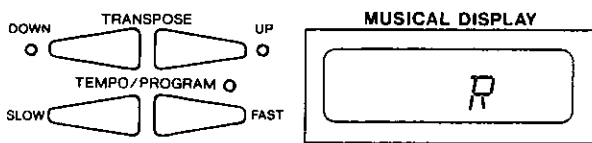
- Percussion instrument sounds are produced by the lower keyboard keys as indicated by the picture code below each key. (For further explanation, refer to the separate "Sound and Rhythm Guide" provided.)
- When the **KEYBOARD PERCUSSION** button is on, other sounds are not available for the lower keyboard.
- The **KEYBOARD PERCUSSION** volume is adjusted with the **DRUMS** buttons in the **VOLUME** section.

Drum kit

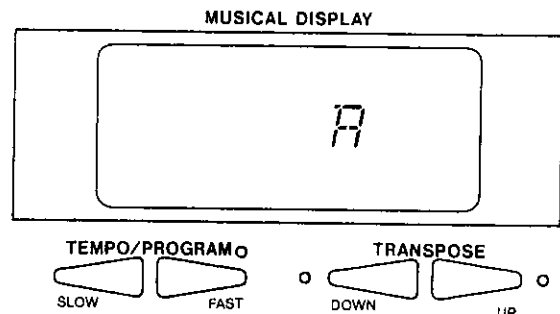
You can select the sounds in the **KEYBOARD PERCUSSION** which are appropriate for the musical style. Depending on the style, the nuance of the sounds changes even when the name of the percussion instrument is the same.

1. Press and hold the **KEYBOARD PERCUSSION** button until the display changes (2 or 3 seconds).
 - The current drum kit style is shown on the display.

EN2

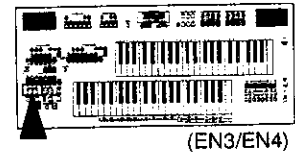
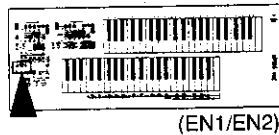


EN3/EN4



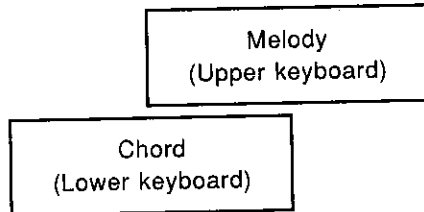
2. Use the **TRANSPOSE** buttons to select the desired drum kit type: R (rock), S (standard), E (electric) or HR (hard rock) [EN4].
 - The display automatically returns to the normal performance display after a few seconds.

Auto Play Chord



Simply by playing a key on the lower keyboard, the **AUTO PLAY CHORD** function automatically plays an accompaniment pattern on the lower keyboard and pedal keyboard which matches the selected rhythm.

How the AUTO PLAY CHORD works



♪ When an **AUTO PLAY CHORD** mode is selected, an automatic accompaniment which matches the rhythm you have chosen is played in the chord which you specify on the lower keyboard. You play the melody on the upper keyboard.

- The accompaniment pattern of the **AUTO PLAY CHORD** is composed of five parts: **DRUMS, BASS, ACCOMP 1, ACCOMP 2** and **ACCOMP 3**.

Practical applications

Playing the chords

Choose from two ways of playing the chords—the one-finger mode and the fingered mode—with the **FINGERED 1** and **FINGERED 2** buttons.

■ One-finger mode

(When the **FINGERED 1** button is on.)

Press a key on the lower keyboard. A major chord can be played just by pressing its root note key on the lower keyboard.

Example: C chord



Minor, seventh and minor seventh chords are also easily produced.

minor chord	seventh chord	minor seventh chord
Play the root note on the lower keyboard and any black pedal.	Play the root note on the lower keyboard and any white pedal.	Play the root note on the lower keyboard and any black pedal and white pedal at the same time.

■ **Fingered mode**

(When the **FINGERED 1** or **FINGERED 2** button is on.)

Specify the chord by playing all the notes in the chord on the lower keyboard.

Example: C chord



- The **AUTO PLAY CHORD** can identify 24 chord types. For example: C, C7, CM7, Caug, Cm, Cm7, Cdim7, Cm7^{b5}, CmM7, C7sus4.
- If a pedal is pressed while you are playing a chord in the fingered mode, only the bass pattern is produced in the key of the pressed pedal, thus making it possible to play chords such as D^{on}C.
- If you specify a chord on the lower keyboard when the automatic rhythm is on, an accompaniment pattern is produced even when the automatic accompaniment is off. If you do not want an accompaniment pattern, set the volume to 0 with the **ACCOMP** buttons in the **VOLUME** section. (Refer to page 54.)

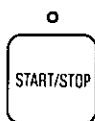
How to use the AUTO PLAY CHORD

Play an automatic accompaniment by using the **AUTO PLAY CHORD**.

1. Select a rhythm, and select the desired sounds and effects for the upper and lower keyboards.
2. In the **AUTO PLAY CHORD** section, press either the **FINGERED 1** or **FINGERED 2** button to turn it on.



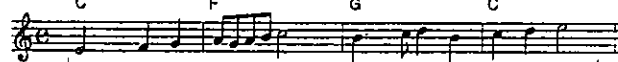
- When the **FINGERED 1** button is on, you can play either one-finger chords or fingered chords. When the **FINGERED 2** button is on, only fingered chords are played.
3. Press the **START/STOP** button to start the automatic rhythm.



- Adjust the tempo with the **TEMPO/PROGRAM** buttons.
4. Specify the chord on the lower keyboard.
 - ♪ An accompaniment pattern in the specified chord begins to play. Play the melody on the upper keyboard.

- Here is an example of how to play a one-finger accompaniment.

Left hand (Lower keyboard)

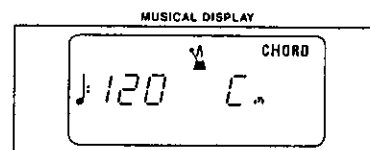
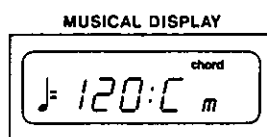


Play the melody with your right hand.
(Upper keyboard)

- The name of the specified chord is shown on the display (EN2/EN3/EN4).

EN2

EN3/EN4

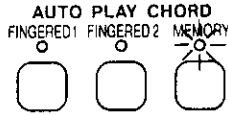


- When you use **FILL IN**, **INTRO** or **ENDING**, the automatic accompaniment is also used in these patterns.
5. To stop the automatic accompaniment, press the **START/STOP** button.



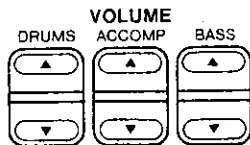
MEMORY button

When the **MEMORY** button is on, even when the lower keyboard keys are released, the chord is memorized and the accompaniment continues to play until you specify another chord.



Adjust the volume

The volume for each part is adjusted with the respective **DRUMS**, **ACCOMP** or **BASS** buttons in the **VOLUME** section.



- While you are adjusting the volume for a part, the volume is indicated on the display as a number from 0 (off) to 9 (maximum). A few seconds after you finish adjusting the volume, the display returns to the previous display.
- The volumes for the **ACCOMP 1, 2 and 3** parts can be adjusted independently. (Refer to page 72 [EN1/EN2] or page 76 [EN3/EN4].)

Break function

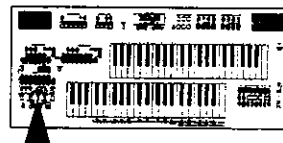
With the break function, the rhythm stops when the lower keyboard keys are released. When the keys are pressed again, the rhythm starts from the first beat of the measure.

1. Turn on either the **FINGERED 1** or **FINGERED 2** button.
 - The **MEMORY** button should be off.
2. Turn on the **SYNCHRO & BREAK** button.



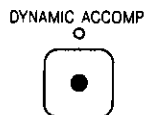
3. Specify a chord on the lower keyboard.
 - ♪ The automatic accompaniment begins to play (synchronized start).
4. Release the lower keyboard keys.
 - ♪ The automatic accompaniment stops. When the keys are pressed again, the rhythm starts from the first beat of the measure.

Dynamic Accomp (EN4)



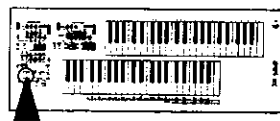
DYNAMIC ACCOMP is a function which changes each accompaniment pattern of the **AUTO PLAY CHORD**.

1. Turn on the **DYNAMIC ACCOMP** button.



2. Play the keyboard in one of the **AUTO PLAY CHORD** modes.
 - ♪ Depending on the condition of the performance, each accompaniment part changes.

One Touch Play



(EN1/EN2)



(EN3/EN4)

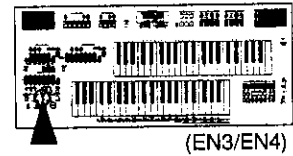
With the **ONE TOUCH PLAY** feature, the sounds and effects, etc. matching the selected rhythm are easily set in seconds and you are ready to play immediately.

1. Select a rhythm pattern with the **RHYTHM** buttons.
 - Do not select a **COMPOSER** rhythm pattern (EN3/EN4).



2. Press the **ONE TOUCH PLAY** button until the panel settings change.
 - ♪ The **FINGERED 1** or **FINGERED 2** button and the **SYNCHRO & BREAK** button are automatically turned on. When a chord is specified on the lower keyboard, the automatic accompaniment begins to play immediately.
 - EN1/EN2/EN3: When this function is used, a sound different from that of the specified **SOUND SELECT** button may be produced.

Music Style Arranger



The **MUSIC STYLE ARRANGER** feature changes the sound and rhythm pattern automatically during your performance with the press of a button. You can change the arrangement depending on the atmosphere and feeling of the music to produce a varied and more interesting performance.

How to use the MUSIC STYLE ARRANGER

1. Select a rhythm pattern with the **RHYTHM** buttons.
 - Do not select a **COMPOSER** rhythm pattern (EN3/EN4).
2. Press the **MUSIC STYLE ARRANGER** button to select the style (1, 2 or 3) you want at the beginning of your performance.

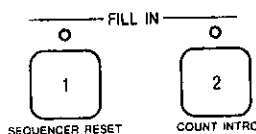
- 1: Simple pattern
2: Normal pattern
3: Flashy pattern



- Each the time **MUSIC STYLE ARRANGER** button is pressed, the style indication changes as follows: 1 → 2 → 3 → off.
- ♪ The panel settings change according to the selected rhythm and music style. The **FINGERED 1** or **FINGERED 2** button and the **SYNCHRO & BREAK** button are automatically turned on. When a chord is specified on the lower keyboard, the automatic accompaniment begins to play immediately.
- EN1/EN2/EN3: When this function is used, a sound different from that of the specified **SOUND SELECT** button may be produced.

How to change the music style during your performance

While you are playing the organ with the **MUSIC STYLE ARRANGER** on, press the **FILL IN 1** or **2** button.



- Each time the **1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the 3 → 2 → 1 order. And each time the **2** button is pressed, the **FILL IN 2** pattern plays, and then the style changes in the 1 → 2 → 3 order.

Define the settings which change

You can define which panel settings change when the **MUSIC STYLE ARRANGER** is used.

1. Press the **MUSIC STYLE ARRANGER** button until the display changes (2 or 3 seconds).
2. Use the **TRANPOSE** buttons to select the desired mode.
 - Snd* : Only the sound changes when a **FILL IN** button is pressed during a performance.
 - S-r* (EN1):
 - Snd-r* (EN2/EN3/EN4): Both the sound and rhythm change.
 - rhy* : Only the rhythm changes.

- The display automatically returns to the normal performance display after a few seconds.

Storing a chord progression



(EN1/EN2)



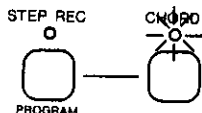
(EN3/EN4)

You can store the chord progression for an entire song with the **STEP RECORD** feature. When you play back the stored progression with the **AUTO PLAY CHORD**, even if you do not specify the chords on the lower keyboard, the chords change automatically.

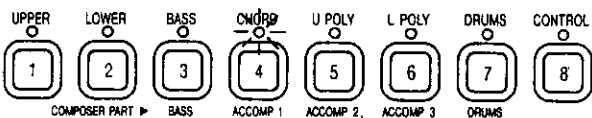
STEP RECORD

1. Turn on the **STEP REC** button, and press the **CHORD** button.

EN1/EN2



EN3/EN4



- The indicator for the **CHORD** button flashes.

2. On the lower keyboard, press and hold the keys for the first chord you wish to record.

3. While holding the chord keys, use the **STEP RECORD** keys at the right end of the lower keyboard to specify the length of the chord.

Practical applications

Note value keys

- : Press to store a whole note.
- ◡ : Press to store a dotted half-note.
- ◢ : Press to store a half-note.
- ◣ : Press to store a dotted quarter-note.
- ◤ : Press to store a quarter-note.
- ◥ : Press to store an eighth-note.

Reset key

⏮ - Press to begin storing from the beginning.

Correction keys

- ◀ Press once to move back one chord.
- ▶ Press once to move forward one chord.

DELETE Erase the stored chord.

- Hold down the **DELETE** key and press the **End** key to erase the entire chord progression.

Repeat key

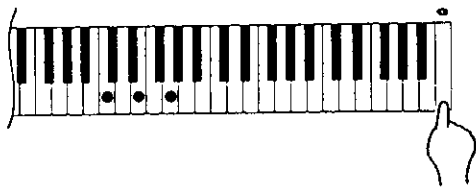
↺ Press to complete storage and specify automatic repeat playback of the stored progression.

End key

⏹ Press after the whole chord progression has been stored.

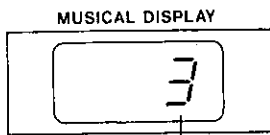
Example of storing a chord

Record a C major chord of 4 length.



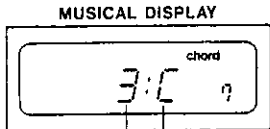
- A "beep" tone indicates that the chord has been successfully stored.
- If a **FILL IN** button, the **COUNT INTRO** or **INTRO & ENDING** button is pressed, the respective pattern is stored at that point.
- The chord name and measure number are shown on the display.

EN1



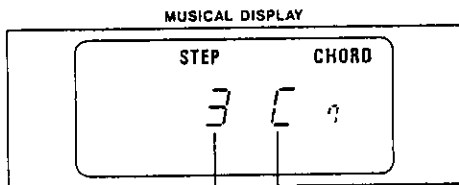
Measure number

EN2



Measure number Chord name

EN3/EN4



Measure number Chord name

4. Repeat steps 2 and 3 to record the remaining chords.
 - To return to the first measure, press the Reset key.
5. When you have completed storing the chord progression, press the End key.
 - For repeat play during playback, press the Repeat key.



The following chords can be stored (C is given as an example): C, Cm, C7, Cm7^{b9}, CmM7, Csus4, Cm7, CM7, Caug, Cdim.

- If a chord other than these is played, the chord in this group which is most closely related is stored.

The panel settings (sounds, rhythm, etc.) which are in effect when recording begins are also stored.

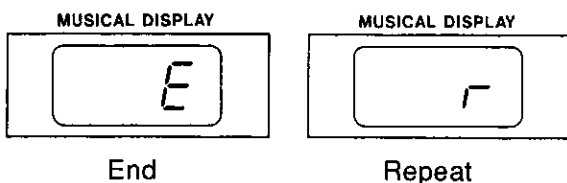
Correcting the chord progression

To correct or modify the recorded chord progression, use the Correction keys (▶, ◀) to locate the data you wish to change.

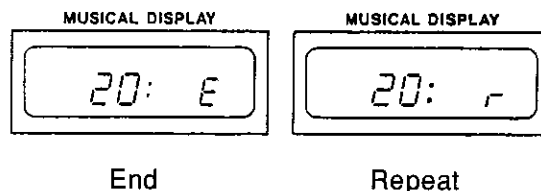
How chord progression data is indicated:

- **Chord data:** The chord name is indicated on the display (EN2/EN3/EN4). Positions at which there is no chord stored are displayed as _.
- **INTRO data:** The **INTRO & ENDING** indicator flashes slowly.
- **COUNT INTRO data:** The **COUNT INTRO (FILL IN 2)** indicator flashes slowly.
- **ENDING data:** The **INTRO & ENDING** indicator flashes rapidly.
- **FILL IN data:** The **FILL IN 1** or **2** indicator flashes rapidly.
- **End/repeat data:** This data is indicated on the display as follows:

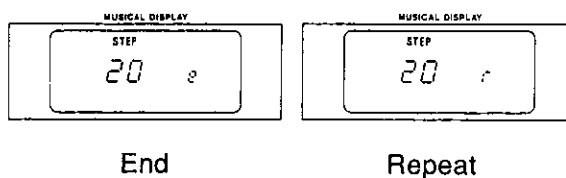
EN1



EN2



EN3/EN4



- When the **DELETE** key is pressed, the recorded contents at the current position are erased.
- When you hold down the **DELETE** key and press the End key, the entire chord progression is erased.
- When an **INTRO** or **COUNT INTRO** is stored, the measure number is incremented by the number of measures in the intro.
- To include the automatic accompaniment in the **INTRO** or **ENDING**, while pressing and holding the keys for the chord, press the respective button.

Practical applications

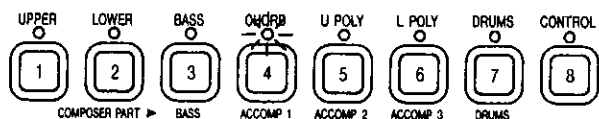
Playing back the chord progression

1. Confirm that the **CHORD** button is on.

EN1/EN2

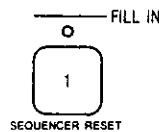


EN3/EN4



- If it is off, press it to turn it on.

2. Press the **SEQUENCER RESET** button.



3. Press the **START/STOP** button.

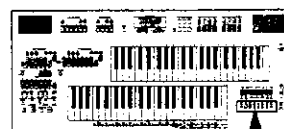


- ♪ The **AUTO PLAY CHORD** begins to play following the stored chord progression.

Part III Sequencer (EN3/EN4)

The **SEQUENCER** stores your entire performance—melody and accompaniment, sound and panel setting changes, even changes in the rhythm—for completely automatic playback whenever you desire.

An example of recording in the SEQUENCER



Follow these step-by-step instructions to record the following example in the **SEQUENCER**.

RHYTHM = 16 BEAT 1

♩ = 120

Melody 1 (UPPER SPECIAL)
< STRINGS >

Melody 2 (UPPER POLY)
< PIANO >

LOWER < ORGAN 1 >

BASS < ELECTRIC >

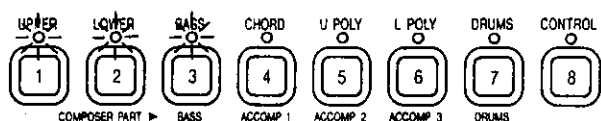
Practical applications

- Set up your organ with the rhythm and tempo indicated above. Select the sounds and effects for each part.
- Turn on the **INTRO & ENDING** or **COUNT INTRO** button to begin the performance with an **INTRO** or **COUNT**.

1. Turn on the **SEQUENCER REC** button.



- Turn on the **UPPER** button, then **LOWER**, and finally the **BASS** button.



- The indicators flash.
- The current panel settings are stored. During playback, the stored panel settings are recalled when the **SEQUENCER RESET** button is pressed.

- Press the **START/STOP** button, and play the upper keyboard (Melody 1), lower keyboard and pedal keyboard.

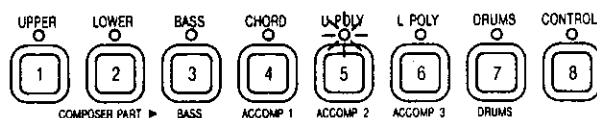


- If the rhythm is not on, recording begins when a keyboard is played.
- When you have finished playing, turn off the **SEQUENCER REC** button.

Multi-track recording

While listening to the performance already recorded, play and record the Melody 2 part.

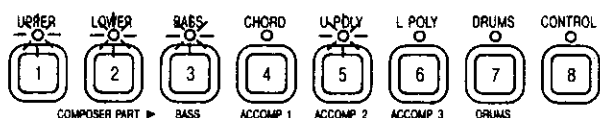
- Turn on the **SEQUENCER REC** button.
 - Confirm that the **UPPER**, **LOWER** and **BASS** indicators (the parts already recorded) are lit.
- Turn on the **U POLY** button.



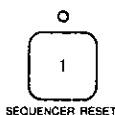
- The **U POLY** indicator flashes.
- Press the **START/STOP** button.
 - The parts already recorded are played back.
 - While listening to the already-recorded parts, play Melody 2 on the upper keyboard.
 - When you have finished playing, turn off the **SEQUENCER REC** button.

Playback

- Confirm that the indicators for the recorded parts are lit.

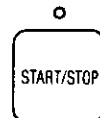


- Press the **SEQUENCER RESET** button.



- The **SEQUENCER** returns to the beginning of the song and the beginning panel settings are recalled.

- Press the **START/STOP** button.



- The recorded performance is played back.
- Adjust the tempo with the **TEMPO/PROGRAM** buttons. You can record at a slow speed and play back at a higher speed without changing the pitch.

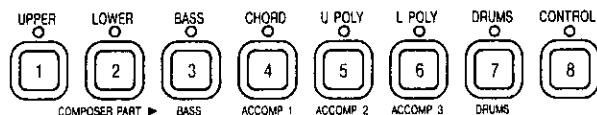
If you begin recording a part for which data has already been recorded, the previously stored contents of the song are erased. To record a new song, use the **SONG CLEAR** or **TRACK CLEAR** procedure (refer to page 63) to first erase any data in the tracks.

If you wish to preserve the recorded contents, please read the section on "Preserving the SEQUENCER contents" on page 63.

Practical applications

Sequencer parts

The **SEQUENCER** has 8 tracks. This means that you can store each part separately and then play them back together for an ensemble performance.



The following summary explains what is stored in each **SEQUENCER** part.

Track number	Part	Used for	Recorded contents
1	UPPER	Recording the upper keyboard performance	<ul style="list-style-type: none"> Selected sounds and effects for all upper keyboard parts UPPER ORCHESTRAL CONDUCTOR status START/STOP on/off INTRO & ENDING on FILL IN on Glide operation
2	LOWER	Recording the lower keyboard performance	<ul style="list-style-type: none"> Selected sounds and effects for all lower keyboard parts LOWER ORCHESTRAL CONDUCTOR status START/STOP on/off INTRO & ENDING on FILL IN on
3	BASS	Recording the pedal keyboard performance	<ul style="list-style-type: none"> Selected sound and effects for the pedal keyboard START/STOP on/off INTRO & ENDING on FILL IN on
4	CHORD	Recording the chord progression for the AUTO PLAY CHORD	<ul style="list-style-type: none"> (Explanation on page 57)
5	U POLY	Recording the POLY part performance on the upper keyboard	<ul style="list-style-type: none"> Selected sound and effects for the upper POLY part START/STOP on/off INTRO & ENDING on FILL IN on
6	L POLY	Recording the POLY part performance on the lower keyboard	<ul style="list-style-type: none"> Selected sound and effects for the lower POLY part START/STOP on/off INTRO & ENDING on FILL IN on
7	DRUMS	Recording the KEYBOARD PERCUSSION performance	<ul style="list-style-type: none"> START/STOP on/off INTRO & ENDING on FILL IN on
8	CONTROL	Recording the status of various panel buttons	<ul style="list-style-type: none"> Volume of each part Selection changes in the RHYTHM Tempo setting TRANPOSE status Selection changes in the VOICE SETTING COMPUTER START/STOP on/off INTRO & ENDING on FILL IN on Glide operation Expression pedal operation*

* The expression pedal data are automatically stored at the beginning of the recording. During playback, if the expression pedal is moved substantially, the stored expression data is canceled and manual operation takes priority.

• Each part is already assigned to a track number, but you can assign parts to tracks as desired. (Refer to page 64.)

Maximum number of notes which can sound simultaneously

Upper keyboard parts	32 maximum (up to 8 simultaneously pressed keys can be input)
Lower keyboard parts	32 maximum (up to 8 simultaneously pressed keys can be input)
ACCOMP parts	4/part
DRUMS	6
BASS	1

- The maximum number of notes which can sound simultaneously for all parts combined is 32.
- The **ACCOMP** parts are selected with the **TRACK ASSIGN** function. (Refer to page 64.)

Memory capacity

Expressed in terms of notes, the total number of notes which can be recorded in all the **SEQUENCER** parts is about 6000. When the remaining memory becomes 20% or less, the remaining memory is indicated by % on the display.

- When an error tone sounds and the **FULL** message appears on the display, the memory is full and no more data can be stored in the **SEQUENCER**.

Preserving the SEQUENCER contents

The recorded contents remain in the **SEQUENCER** memory for about one week after the **POWER** is turned off.

- If the optional Digital Disk Recorder (sold separately) is installed, up to 20 performances can be stored on each floppy disk. (Refer to page 79.)

Erasing the performance

The recorded contents of the **SEQUENCER** can be erased track-by-track or all at once.

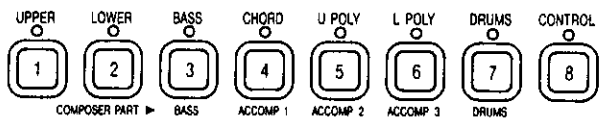
TRACK CLEAR

Erase the recorded contents from specific tracks.

1. Press the **CONTROL 2** button to select **TRACK CLEAR**.

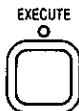
SOUND ○	CONTROL 1 ○	CONTROL 2	MIDI ○
REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	OTHERS

2. Press the part button for the part you wish to erase.



- The indicator for the selected part flashes.

3. Press the **EXECUTE** button.



- The contents are erased from the specified tracks.

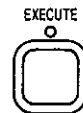
SONG CLEAR

Erase the recorded contents from all the tracks.

1. Press the **CONTROL 1** button to select **SONG CLEAR**.

SOUND ○	CONTROL 1	CONTROL 2 ○	MIDI ○
REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	OTHERS

2. Press the **EXECUTE** button.



- The contents are erased from all the tracks.

Practical applications

Assigning parts to tracks

Each **SEQUENCER** part is already assigned to a track number, as indicated beneath the numbered part buttons. However, you can use the **TRACK ASSIGN** function to assign parts to tracks as you wish.

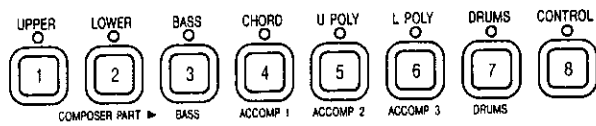
TRACK ASSIGN

Change the part assigned to a specific track.

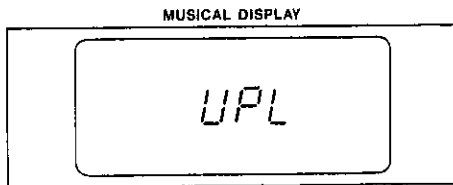
1. Press the **CONTROL 2** button the number of times necessary to select **TRACK ASSIGN**.

SOUND ○	CONTROL 1 ○	CONTROL 2	MIDI ○
REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Press the numbered button to specify the track number you wish to reassign.

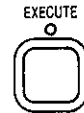


- The indicator for the selected part flashes.
3. Use the **TRANSPOSE** buttons to display the part you wish assigned to the specified track number.



- Select one of the following parts: **UPPER (U)**, **LOWER (L)**, **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **UPPER SOLO (USL) (EN4)**, **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **LOWER SOLO (LSL) (EN4)**, **ACCOMP 1 (AC1)**, **ACCOMP 2 (AC2)**, **ACCOMP 3 (AC3)**, **BASS (bAS)**, **DRUMS (dr)**, **CHORD (CHD)**, **CONTROL (CtL)**, **RHYTHM (rhy)**.
- The **RHYTHM** part is for recording rhythm selection changes. (Refer to the following section.)
- Except for the **CONTROL**, **CHORD** and **RHYTHM** parts, you can assign one part to more than one track.

4. Press the **EXECUTE** button.



5. Repeat steps 2~4 for reassigning other parts to tracks, if desired.
6. When you have completed making the settings, press the **CONTROL 2** button and hold it until all the indicators are off.

About the RHYTHM track

You can record various rhythm data in the track to which you assign the **RHYTHM** part.

1. Turn on the **STEP REC** button.



2. Press the button for the track to which you assigned the **RHYTHM** part.
 - The measure number at the current position is shown on the display.

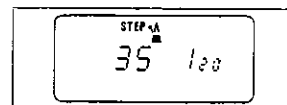
3. Use the **STEP RECORD** Correction keys on the lower keyboard (▶, ◀) to find the measure you wish to change, and press the button for the item you wish to record.
 - You can record **START/STOP**, **COUNT INTRO**, **INTRO & ENDING**, **FILL IN 1** and **2**, selection changes in the **RHYTHM**, and the tempo setting.
 - Be sure to press the **START/STOP** button in the measure where the automatic rhythm is to start.
 - To insert an **INTRO**, press the **INTRO & ENDING** button before pressing the **START/STOP** button.

Rhythm data

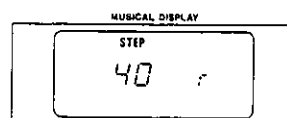
By using the Correction keys to move through the measures, you can search for specific rhythm data. Rhythm data is indicated as follows:

- **START** data: The **START/STOP** indicator flashes rapidly.
- **STOP** data: The **START/STOP** indicator flashes slowly.
- **INTRO** data: The **INTRO & ENDING** indicator flashes slowly.
- **COUNT INTRO** data: The **COUNT INTRO (FILL IN 2)** indicator flashes slowly.
- **ENDING** data: The **INTRO & ENDING** indicator flashes rapidly.
- **FILL IN** data: The **FILL IN 1** or **2** indicator flashes.

- **Tempo data:** This data is indicated on the display as follows:



- **Repeat data:** This data is indicated on the display as follows:



- When the **DELETE** key is pressed, the recorded contents at the current position are erased.
 - When you hold down the **DELETE** key and press the End key, the entire recorded contents of the track are erased.
4. When you have completed making changes, turn off the **STEP REC** button.

Error messages

The following messages on the display indicate that a mistake has been made in using the **SEQUENCER** functions.

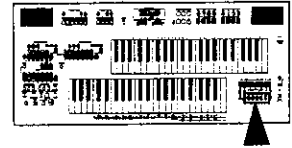
- SEQ Er*: The data cannot be read.
- Err 16*: You attempted to change rhythm data which would change the time signature of the recorded performance.
- Err 17*: You attempted to delete rhythm data which would change the time signature of the recorded performance.
- Err 18*: You attempted to insert rhythm data which would change the time signature of the recorded performance.

Part IV Composer (EN3/EN4)

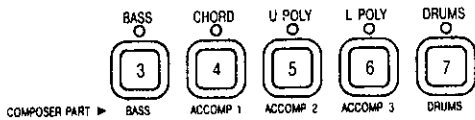
With the **COMPOSER** feature, you create and store up to 8 original rhythm patterns, just like the preprogrammed repeating patterns in the **RHYTHM** section.

Your rhythm pattern is made up of five parts—**DRUMS**, **BASS**, **ACCOMP 1**, **ACCOMP 2** and **ACCOMP 3**—and can have up to eight measures. You can also change parts of an existing rhythm pattern to make a new pattern.

COMPOSER parts



The five **COMPOSER PART** buttons are used for recording the rhythm pattern.



Practical applications

Maximum number of notes which can sound simultaneously

BASS	1 note
ACCOMP 1	4 notes
ACCOMP 2	4 notes
ACCOMP 3	4 notes
DRUMS	6 notes

Memory capacity

Expressed in terms of notes, the total number of notes which can be recorded in all the **COMPOSER** parts is about 1800. When the remaining memory becomes 20% or less, the remaining memory is indicated by % on the display.

- When an error tone sounds and the **FULL** message appears on the display, the memory is full and no more data can be stored in the **COMPOSER**.

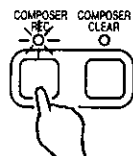
Preparing to create a rhythm pattern

There are two methods of creating a new rhythm pattern. In the first method, you record a completely new pattern exactly as you play it on the keyboard. In the second method, you change parts of an existing rhythm pattern (including **AUTO PLAY CHORD** patterns) to make a new pattern.

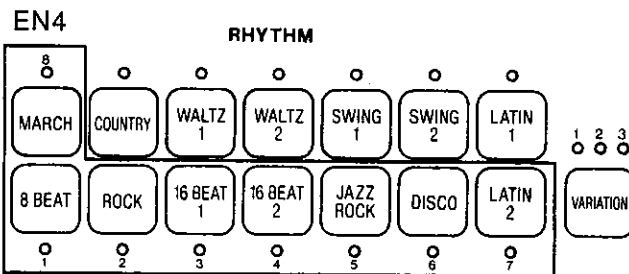
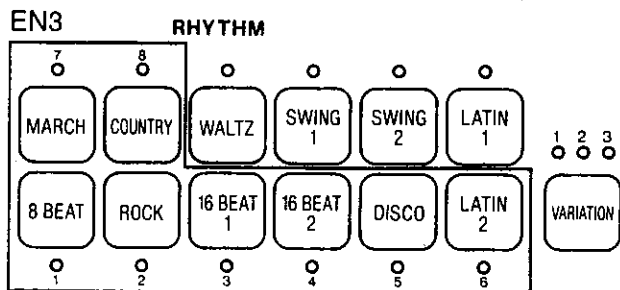
Creating a new rhythm pattern

The first method is to create a completely new rhythm pattern.

1. Turn on the **COMPOSER REC** button.

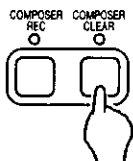


2. In the **RHYTHM** section, select a memory location (number) for your rhythm pattern by pressing one of the numbered buttons (1~8).



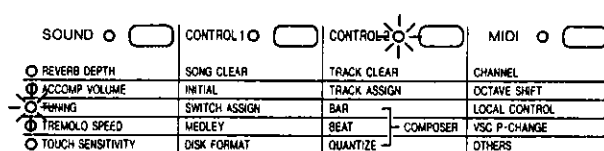
- The indicator lights for the selected number button, and "ALL" appears on the display.

3. Press the **COMPOSER CLEAR** button.

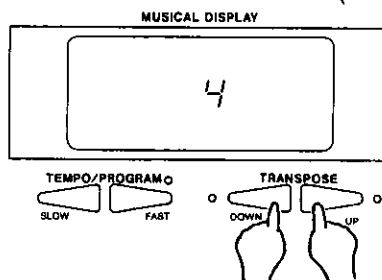


- The contents of all the **COMPOSER** parts for the selected number are erased.

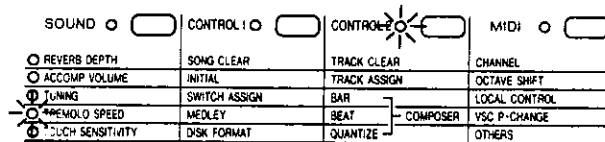
4. Specify the number of measures for your rhythm pattern by first pressing the **CONTROL 2** button the number of times necessary to select **BAR**.



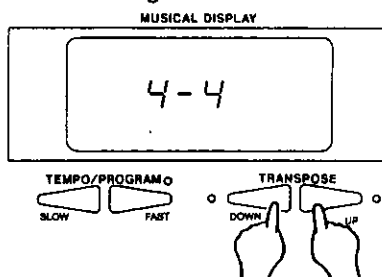
5. Then use the **TRANPOSE** buttons to display the desired number of measures (1~8).



6. Specify the time signature by first pressing the **CONTROL 2** button to select **BEAT**.



7. Then use the **TRANPOSE** buttons to display the desired time signature.



- Select a time signature from 1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4 (indicated respectively as 1-4, 2-4, etc.).

Factory-preset **COMPOSER** patterns

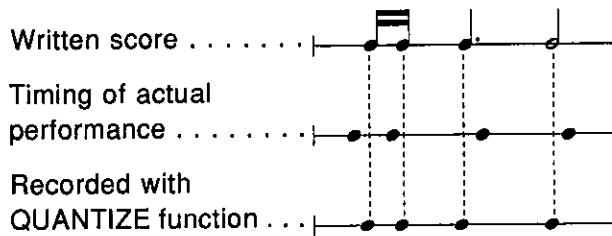
Eight rhythm patterns are stored in the **COMPOSER 1~8** buttons at the time of shipment from the factory. For details, please refer to the separate "Sound and Rhythm Guide" provided.

Practical applications

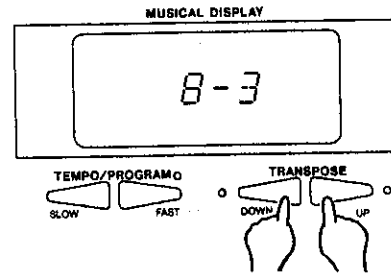
QUANTIZE

When you record with the **QUANTIZE** function on, any unevenness in the timing of your performance is automatically smoothed out.

For example, if you record the following music with the **QUANTIZE** level set to ♩ (16):



1. Press the **CONTROL 2** button the number of times necessary to select **QUANTIZE**.
2. Use the **TRANPOSE** buttons to set the desired **QUANTIZE** level.



- Select from the following: ♩₃ (32-3), ♩ (32), ♩₃ (16-3), OFF, ♩ (16), ♩₃ (8-3), ♩ (8), ♩ (4). (A 3 indicates triplet-type rhythms.)
- The **QUANTIZE** function can also be turned on or off as desired while you are recording, allowing you to quantize the timing of specific phrases.

Drum kit

When setting up to record in the **COMPOSER**, you can change the type of drums sounds.

1. Press the **KEYBOARD PERCUSSION** button.
2. Use the **TRANPOSE** buttons to select the desired drum kit type.
 - For detailed information about the types of drum kits, refer to page 51.

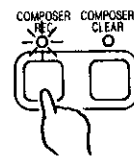
- Note that this setting is only for recording in the **COMPOSER** and is otherwise unrelated to the **KEYBOARD PERCUSSION** drum kit setting.
- The drum kit cannot be changed during **COMPOSER** recording.

Modifying an existing rhythm pattern

The second method is to change parts of an existing rhythm pattern to create a new pattern.

1. In the **RHYTHM** section, select the rhythm pattern you wish to modify.
 - You can also select a recorded **COMPOSER** rhythm. (For selecting **COMPOSER** rhythms, refer to page 71.)

2. Turn on the **COMPOSER REC** button.



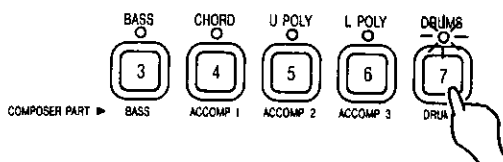
3. In the **RHYTHM** section, select a memory location (number) for your rhythm pattern by pressing one of the numbered buttons (1~8).
 - Refer to the following section "Recording part-by-part" for procedures on recording and editing each part.

Recording part-by-part

After you have completed the procedures in "Preparing to create a rhythm pattern," you are ready to record the **DRUMS**, **BASS**, **ACCOMP 1**, **2** and **3** parts one at a time.

Record the DRUMS part

1. Turn on the **DRUMS** button.



- The **DRUMS** indicator flashes.
- The metronome keeps time. Adjust the metronome speed with the **TEMPO/PROGRAM** buttons. (You can also adjust the tempo during playback.)

2. Using the **KEYBOARD PERCUSSION** keys, play the **DRUMS** part in time with the metronome.

- Record for the specified number of measures. The stored measures are repeatedly played back, during which time any newly played notes are added to those already recorded.
- The current measure number is shown on the display. (Note that if the **CONTROL 2** indicator is lit, the current measure is not displayed. Press the **CONTROL 2** button until all the indicators are off, and the measure number will be shown on the display.)

■ Correcting mistakes

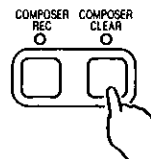
<Erase a specific instrument>

While pressing the **PERCUSSION ERASE** button, press the percussion key on the lower keyboard for the sound you wish to erase. The specified instrument sound will be erased as long as the key is pressed.

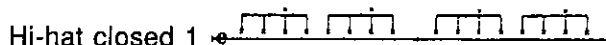
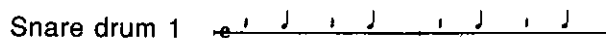
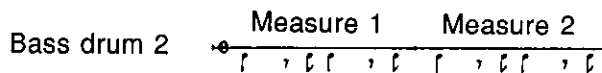


<Erase the entire part>

Press the **COMPOSER CLEAR** button to erase all the contents of the **DRUMS** part.



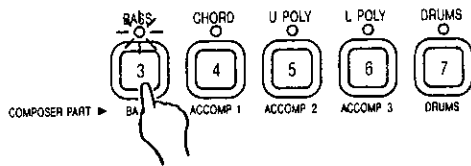
■ Example of recording the DRUMS part



Practical applications

Record the BASS part

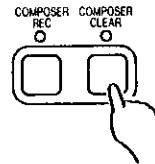
1. Turn on the **BASS** button.



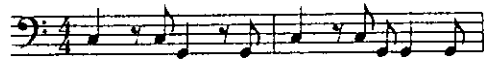
- The **BASS** indicator flashes.
2. Select the desired **BASS** sound from the **LOWER SOUND SELECT** section.
 3. On the lower keyboard, play the **BASS** part in time with the **DRUMS** part.
 - Record the performance in C major for correct chord progressions during playback.

■ Correcting mistakes

Press the **COMPOSER CLEAR** button to erase all the contents of the **BASS** part.

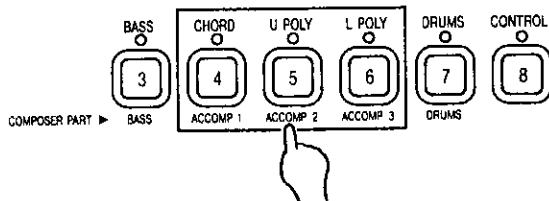


■ Example of recording the BASS part



Record the ACCOMP parts

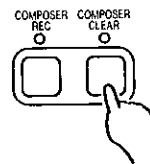
1. Turn on one of the **ACCOMP 1**, **ACCOMP 2**, **ACCOMP 3** buttons.



- The respective indicator flashes.
2. Select the desired **ACCOMP** sound from the **LOWER SOUND SELECT** section.
 3. On the lower keyboard, play the **ACCOMP** part in time with the other parts.
 - Record the performance in C major for correct chord progressions during playback.
 - Record the other two **ACCOMP** parts in the same manner.

■ Correcting mistakes

Press the **COMPOSER CLEAR** button to erase all the contents of the **ACCOMP** part which is currently being recorded.

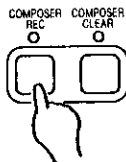


■ Example of recording an ACCOMP part



End the recording

When all the parts to the rhythm pattern have been recorded, turn off the **COMPOSER REC** button.



Playing back the recorded rhythm pattern

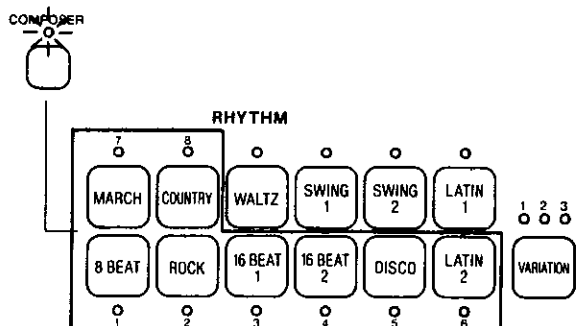
Rhythm patterns you create using the **COMPOSER** function are selected just like the preset rhythms. The **BASS** and **ACCOMP** parts are played back with the **AUTO PLAY CHORD**.

1. In the **RHYTHM** section, turn on the **COMPOSER** button.

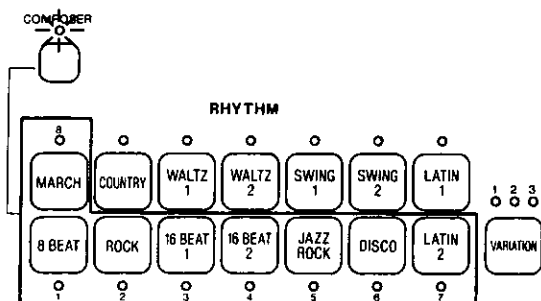


2. Press the button for the rhythm pattern you wish to have played back.

EN3



EN4

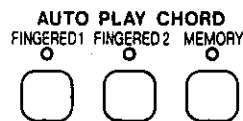


3. Press the **START/STOP** button.



- The **DRUMS** part of the recorded rhythm begins to play.

4. Turn on the **FINGERED 1** or **FINGERED 2** button of the **AUTO PLAY CHORD**, and specify a chord on the lower keyboard.



- The **BASS** and **ACCOMP** parts are played back in the specified chord.

- The **INTRO & ENDING** and **FILL IN** buttons do not function for rhythm patterns with a 1/4, 2/4, 5/4 or 7/4 time signature.

Note:

To correct part of a stored **COMPOSER** rhythm, make sure to select the desired **COMPOSER** rhythm **BEFORE** you press the **COMPOSER REC** button. If a different rhythm pattern is in effect when you start the recording mode, the stored pattern will be replaced by the current rhythm pattern. (Refer to "Modifying an existing rhythm pattern" on page 68.)

Part V Setting the functions (EN1/EN2)

Various functions on your organ can be custom-set to match your personal tastes and style of playing, giving you maximum versatility and control of your instrument.

Summary of adjustable settings and programmable functions

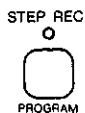
- **ACCOMP VOLUME:** Adjust the volume of the ACCOMP parts.
- **TUNING:** Modify the pitch of the instrument.
- **INITIAL:** Return all storable memories and settable functions to the initialized settings.
- **SWITCH ASSIGN:** Assign the desired function to the foot switch.
- **TREMOLO SPEED:** Regulate the speed of the tremolo.
- **TOUCH SENSITIVITY (EN2):** Adjust the degree of the TOUCH effect.



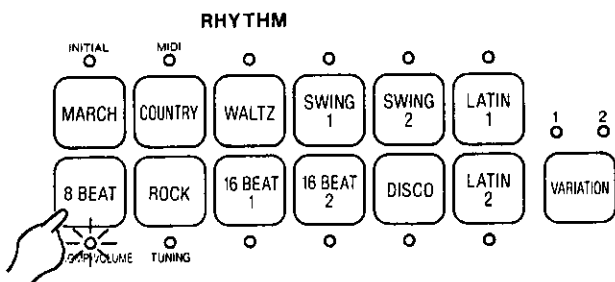
ACCOMP VOLUME

Adjust the volume of each of the three ACCOMP parts of the AUTO PLAY CHORD.

1. Turn on the **PROGRAM** button.



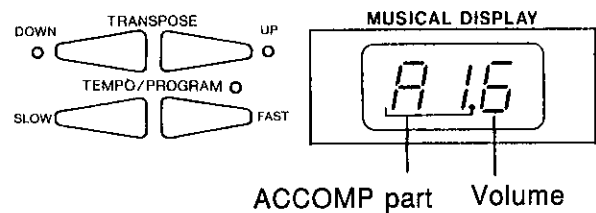
2. In the **RHYTHM** section, press the **ACCOMP VOLUME** button.



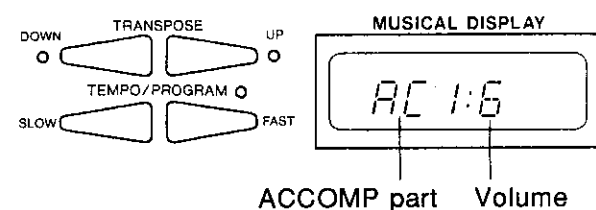
3. Use the **TEMPO/PROGRAM** buttons to select an **ACCOMP** part (1, 2 or 3).

4. Use the **TRANSCOPE** buttons to set the volume to a level between 0 (off) and 9 (maximum).

EN1



EN2



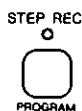
5. Repeat steps 3 and 4 for the other **ACCOMP** parts, as desired.

6. When you have completed making the settings, turn off the **PROGRAM** button.

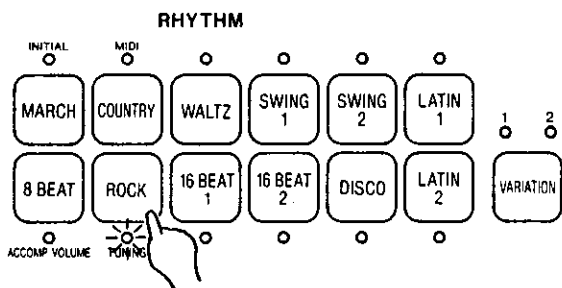
TUNING

Fine-tune the pitch of the entire organ. This is convenient when playing with other instruments.

1. Turn on the **PROGRAM** button.

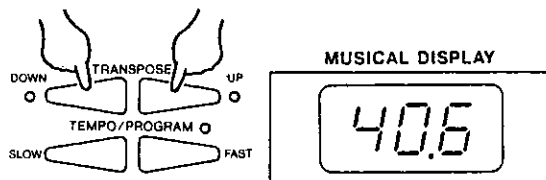


2. In the **RHYTHM** section, press the **TUNING** button.

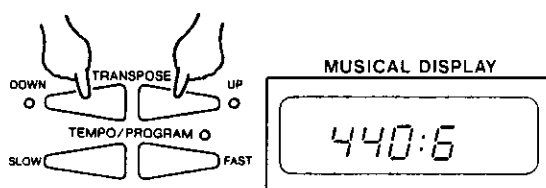


3. Use the **TRANPOSE** buttons to adjust the pitch.

EN1



EN2



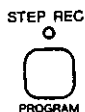
- The pitch is adjustable within a range of 427.3 to 453.0 Hz.
- The decimal can be set to 0, 3 or 6.
- EN1: The hundreds digit is not displayed.
- Pressing both buttons at the same time will return the organ to the standard pitch of 440.0 Hz.

4. When you have completed making the setting, turn off the **PROGRAM** button.

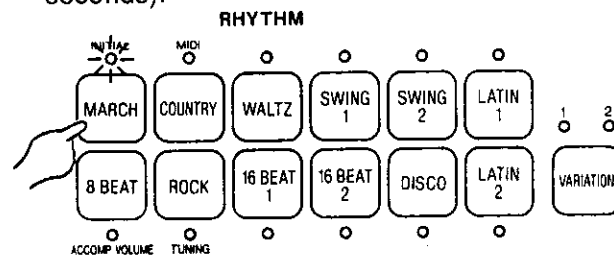
INITIAL

Reset the programmable memories and buttons to their initialized status.

1. Turn on the **PROGRAM** button.



2. In the **RHYTHM** section, press and hold the **INITIAL** button until a "beep" tone sounds and the **PROGRAM** indicator goes out (2 or 3 seconds).



- The memories and settings are returned to their initialized status.
- EN1: The stored contents are also returned to their factory-preset state when the **POWER** is turned off once and then on again.

SWITCH ASSIGN

Assign the desired function to the foot switch.

1. Turn on the **PROGRAM** button.
2. Press the foot switch.
 - A beep tone confirms that the foot switch is ready for programming.
 - Flashing indicators on the panel show which functions you can assign to the foot switch.
3. Press the button for the desired function.
 - A beep tone confirms that the selected function is now assigned to the foot switch.
 - Functions which can be assigned to the foot switch are as follows: glide, **START/STOP**, **FILL IN 1**, **FILL IN 2**, **INTRO & ENDING**, **SUSTAIN**, **TREMOLO SLOW/FAST**, **TECHNICHORD**.

- When the **SUSTAIN** function is assigned to the foot switch, the status alternates between the following two conditions each time the foot switch is pressed:
 - Sustain is off for all parts.
 - Sustain is on only for parts for which the **SUSTAIN** button was set to on.
 At this time, the **SUSTAIN** button indicator does not change.

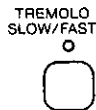
■ Switch Initialize

The initial function of the foot switch is the glide control. To return the foot switch to its initial function, press and hold both **TRANSPOSE** buttons at the same time.

TREMOLO SPEED

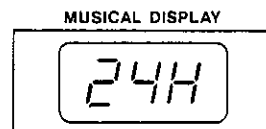
Set the **FAST TREMOLO** speeds with this procedure. The **FAST TREMOLO** creates an effect like two speakers (H and L) rotating at different speeds.

1. Press and hold the **TREMOLO SLOW/FAST** button until the display changes (2 or 3 seconds).

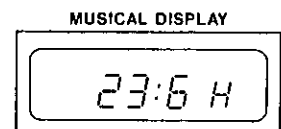


2. Use the **TRANSPOSE** buttons to select H (high speed) or L (low speed).
3. Use the **TEMPO/PROGRAM** buttons to adjust the speed.

EN1



EN2



- Select an L speed from 3.8 to 8.1, and an H speed from 11 to 32 (EN1) and from 10.8 to 31.6 (EN2).
- The higher the number, the faster the rotation speed.
- 4. Repeat steps 2 and 3 for the other speed, as desired.
- The display automatically returns to the normal performance display after a few seconds.

TOUCH SENSITIVITY (EN2)

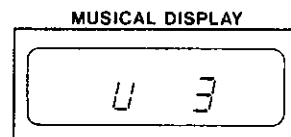
Adjust the amount of **TOUCH** effect for each of the upper and lower keyboards.

1. Press and hold the **TOUCH** button for the **UPPER SOUND SELECT** or **LOWER SOUND SELECT** until the display changes (2 or 3 seconds).



- The effect cannot be adjusted when the **TAB & ORGAN** button is on.

2. Use the **TRANSPOSE** buttons to set the effect to a level between 0 (off) and 9 (maximum).

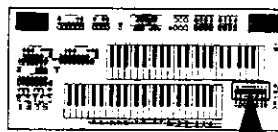


- The display automatically returns to the normal performance display after a few seconds.

Part VI Setting the functions (EN3/EN4)

Various functions on your organ can be custom-set to match your personal tastes and style of playing, giving you maximum versatility and control of your instrument.

Summary of adjustable settings and programmable functions



SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI ○
○ REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
○ ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
○ TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
○ TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
○ TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	OTHERS

■ SOUND

- **REVERB DEPTH:** Regulate the depth of the reverberation.
- **ACCOMP VOLUME:** Adjust the volume of the **ACCOMP** parts.
- **TUNING:** Modify the pitch of the instrument.
- **TREMOLO SPEED:** Regulate the speed of the tremolo.
- **TOUCH SENSITIVITY:** Adjust the degree of the **TOUCH** effect.

■ CONTROL 1

- **SONG CLEAR** (Refer to the explanation on page 63.)
- **INITIAL:** Return all storable memories and settable functions to the initialized settings.
- **SWITCH ASSIGN:** Assign the desired function to the foot switch.
- **MEDLEY** (Refer to the explanation on page 82.)
- **DISK FORMAT** (Refer to the explanation on page 80.)

■ CONTROL 2

The various **CONTROL 2** functions are described in the respective **SEQUENCER** and **COMPOSER** sections.

■ MIDI

The **MIDI** functions are explained in the section on MIDI. (Refer to page 92.)

Setting the desired function

Select the desired function by pressing the appropriate mode button (**SOUND** or **CONTROL 1**) the number of times necessary to make the corresponding indicator light.

Example: The **SWITCH ASSIGN** function is selected.

SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI ○
○ REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
○ ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
○ TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
○ TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
○ TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	OTHERS

- The selected function is indicated by the combination of the lit mode indicator (**SOUND** or **CONTROL 1**) and the indicators along the left side of the functions list.
- When you have finished setting the functions, press and hold the mode button until all the indicators are off.

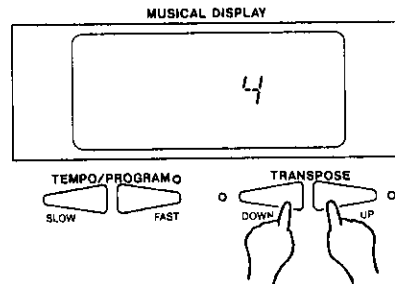
REVERB DEPTH

Specify the depth of the reverberation effect for all **DIGITAL REVERB** types (**ROOM, STAGE** and **HALL**).

1. Use the **SOUND** button to select **REVERB DEPTH**.

SOUND	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input type="radio"/>
<input checked="" type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **TRANPOSE** buttons to adjust the reverberation depth.



- Select from eight levels (1~8). The higher the number, the greater the depth.

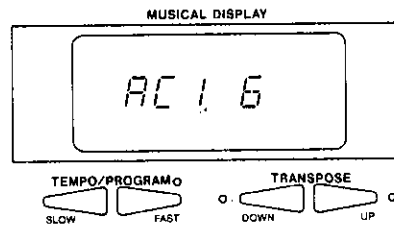
ACCOMP VOLUME

Adjust the volume of each of the three **ACCOMP** parts of the **AUTO PLAY CHORD** and **SEQUENCER**.

1. Use the **SOUND** button to select **ACCOMP VOLUME**.

SOUND	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input type="radio"/>
<input checked="" type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

3. Use the **TRANPOSE** buttons to set the volume to a level between 0 (off) and 9 (maximum).



4. Repeat steps 2 and 3 for the other **ACCOMP** parts, as desired.

2. Use the **TEMPO/PROGRAM** buttons select an **ACCOMP** part.
 - Select from AC1, AC2 and AC3 on the display.

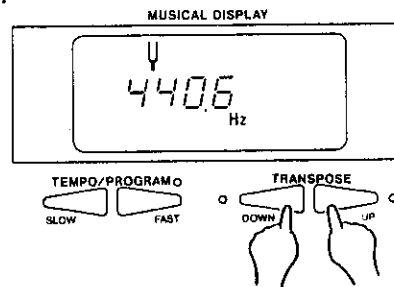
TUNING

Fine-tune the pitch of the entire organ. This is convenient when playing with other instruments.

1. Use the **SOUND** button to select **TUNING**.

SOUND	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input type="radio"/>
<input type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input checked="" type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **TRANPOSE** buttons to adjust the pitch.



- The pitch is adjustable within a range of 427.3 to 453.0 Hz. The decimal can be selected from 0, 3 and 6.
- Pressing both buttons at the same time will return the organ to the standard pitch of 440.0 Hz.

TREMOLO SPEED

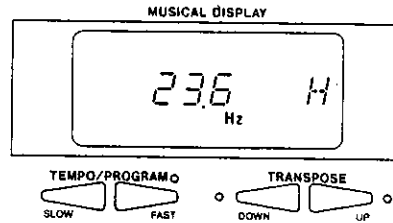
Set the **FAST TREMOLO** speeds with this procedure. The **FAST TREMOLO** creates an effect like two speakers (H and L) rotating at different speeds.

1. Use the **SOUND** button to select **TREMOLO SPEED**.

<input checked="" type="radio"/> SOUND	<input type="radio"/> CONTROL 1	<input type="radio"/> CONTROL 2	<input type="radio"/> MIDI
<input type="radio"/> REVERB DEPTH	<input type="radio"/> SONG CLEAR	<input type="radio"/> TRACK CLEAR	<input type="radio"/> CHANNEL
<input type="radio"/> ACCOMP VOLUME	<input type="radio"/> INITIAL	<input type="radio"/> TRACK ASSIGN	<input type="radio"/> OCTAVE SHIFT
<input type="radio"/> TUNING	<input type="radio"/> SWITCH ASSIGN	<input type="radio"/> BAR	<input type="radio"/> LOCAL CONTROL
<input checked="" type="radio"/> TREMOLO SPEED	<input type="radio"/> MEDLEY	<input type="radio"/> BEAT	<input type="radio"/> COMPOSER
<input type="radio"/> TOUCH SENSITIVITY	<input type="radio"/> DISK FORMAT	<input type="radio"/> QUANTIZE	<input type="radio"/> YSC P-CHANGE
			<input type="radio"/> OTHERS

2. Use the **TRANSPOSE** buttons to select H (high speed) or L (low speed).

3. Use the **TEMPO/PROGRAM** buttons to adjust the speed.



- Select an L speed from 3.8 to 8.1, and an H speed from 10.8 to 31.6.
- The higher the number, the faster the rotation speed.

4. Repeat steps 2 and 3 for the other speed, as desired.

TOUCH SENSITIVITY

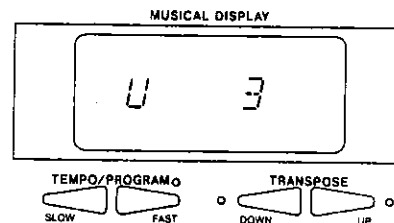
Adjust the amount of **TOUCH** effect for each of the upper and lower keyboards.

1. Use the **SOUND** button to select **TOUCH SENSITIVITY**.

<input checked="" type="radio"/> SOUND	<input type="radio"/> CONTROL 1	<input type="radio"/> CONTROL 2	<input type="radio"/> MIDI
<input type="radio"/> REVERB DEPTH	<input type="radio"/> SONG CLEAR	<input type="radio"/> TRACK CLEAR	<input type="radio"/> CHANNEL
<input type="radio"/> ACCOMP VOLUME	<input type="radio"/> INITIAL	<input type="radio"/> TRACK ASSIGN	<input type="radio"/> OCTAVE SHIFT
<input type="radio"/> TUNING	<input type="radio"/> SWITCH ASSIGN	<input type="radio"/> BAR	<input type="radio"/> LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	<input type="radio"/> MEDLEY	<input type="radio"/> BEAT	<input type="radio"/> COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	<input type="radio"/> DISK FORMAT	<input type="radio"/> QUANTIZE	<input type="radio"/> YSC P-CHANGE
			<input type="radio"/> OTHERS

2. Use the **TEMPO/PROGRAM** buttons to select U (upper keyboard) or L (lower keyboard).

3. Use the **TRANSPOSE** buttons to set the effect to a level between 0 (off) and 9 (maximum).



- If the **TOUCH** button is pressed and hold down, the display changes to this display.

Practical applications

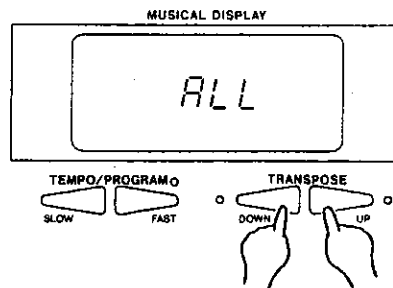
INITIAL

Reset the programmable memories and buttons to their initialized status.

1. Use the **CONTROL 1** button to select **INITIAL**.

<input type="radio"/> SOUND	<input checked="" type="radio"/> CONTROL 1	<input type="radio"/> CONTROL 2	<input type="radio"/> MIDI
<input type="radio"/> REVERB DEPTH	<input type="radio"/> SONG CLEAR	<input type="radio"/> TRACK CLEAR	<input type="radio"/> CHANNEL
<input type="radio"/> ACCOMP VOLUME	<input type="radio"/> INITIAL	<input type="radio"/> TRACK ASSIGN	<input type="radio"/> OCTAVE SHIFT
<input type="radio"/> TUNING	<input type="radio"/> SWITCH ASSIGN	<input type="radio"/> BAR	<input type="radio"/> LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	<input type="radio"/> MEDLEY	<input type="radio"/> BEAT	<input type="radio"/> COMPOSER
<input type="radio"/> TOUCH SENSITIVITY	<input type="radio"/> DISK FORMAT	<input type="radio"/> QUANTIZE	<input type="radio"/> YSC P-CHANGE
			<input type="radio"/> OTHERS

2. Use the **TRANSPOSE** buttons to select the initialization mode.



ALL: *ALL*

The **COMPOSER** and **SEQUENCER** settings and memory contents, the sound and effect settings, **VOICE SETTING COMPUTER** contents, and all other programmable settings and functions are reset to their factory-preset status.

COMPOSER: *CPA*

Only the **COMPOSER** settings and memory contents are reset.

SEQUENCER: *SE9*

Only the **SEQUENCER** settings and memory contents are reset.

3. Press the **EXECUTE** button.
 - The memories and settings are returned to their initialized status, according to the selected mode.

SWITCH ASSIGN

Assign the desired function to the foot switch.

1. Use the **CONTROL 1** button to select **SWITCH ASSIGN**.

SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI ○
○ REVERB DEPTH	○ SONG CLEAR	○ TRACK CLEAR	○ CHANNEL
○ ACCOMP VOLUME	○ INITIAL	○ TRACK ASSIGN	○ OCTAVE SHIFT
○ PHrasing	○ SWITCH ASSIGN	○ BAR	○ LOCAL CONTROL
○ TREMOLO SPEED	○ MEDLEY	○ BEAT	○ COMPOSER
○ TOUCH SENSITIVITY	○ DISK FORMAT	○ QUANTIZE	○ YSC P-CHANGE
			○ OTHERS

2. Press the foot switch.
 - A beep tone confirms that the foot switch is ready for programming.
 - Flashing indicators on the panel show which functions you can assign to the foot switch.
3. Press the button for the desired function.
 - A beep tone confirms that the selected function is now assigned to the foot switch.

Functions which can be assigned to the switch are as follows: glide, **START/STOP**, **FILL IN 1**, **FILL IN 2**, **INTRO & ENDING**, **SUSTAIN**, **TREMOLO SLOW/FAST**, **TECHNI-CHORD**, **VOICE SETTING COMPUTER SET**, **VOICE SETTING COMPUTER 1~3 (EN3)/1~6 (EN4)**.

- Select **VOICE SETTING COMPUTER SET** by pressing the **SET** button. Each time the foot switch is pressed, the **VOICE SETTING COMPUTER** selection changes in order to the next higher number.
- When the **SUSTAIN** function is assigned to the foot switch, the status alternates between the following two conditions each time the foot switch is pressed:
 - Sustain is off for all parts.
 - Sustain is on only for parts for which the **SUSTAIN** button was set to on.
 At this time, the **SUSTAIN** button indicator does not change.

■ Switch initialize

The initial function of the foot switch is the glide control. To return the foot switch to its initial function, press and hold both **TRANPOSE** buttons at the same time in step 3.

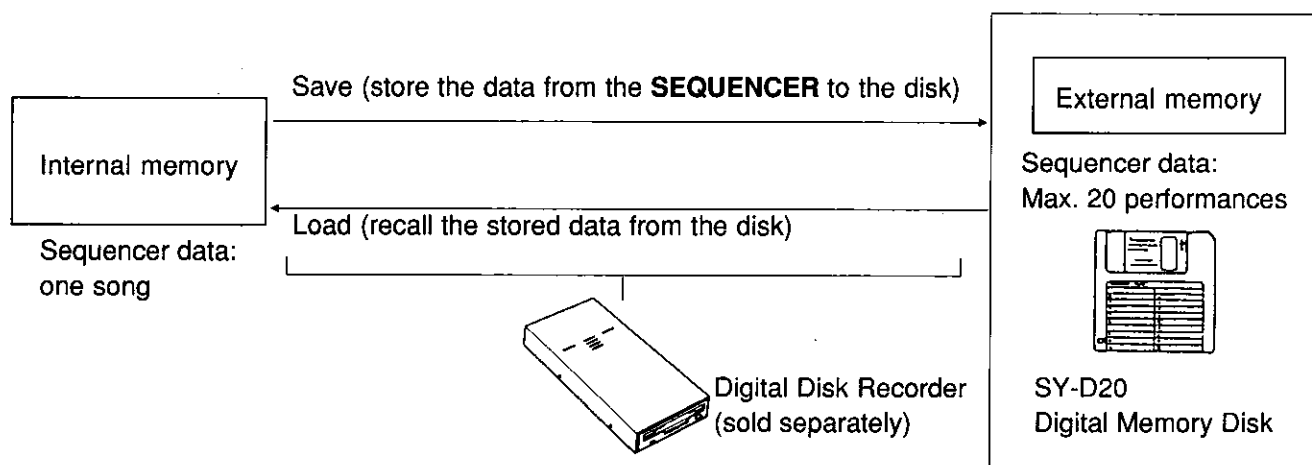
Part VII External memory (EN3/EN4)

Digital Disk Recorder (option*)

*Already installed in some areas.

With the separately sold Digital Disk Recorder, the performance data you stored in the **SEQUENCER** can be stored in an SY-D20 Digital Memory Disk.

The Digital Disk Recorder allows you to record (save) various function settings and the stored contents of the **COMPOSER**, etc. on a disk. When you recall (load) the data and play it back, you hear exactly the same performance you recorded. Only one song's performance can be stored in the **SEQUENCER** at any time. So in order to record a new song, the previous contents must first be erased. On one disk, however, you can store the data for up to 20 songs, which means you can keep a whole library of your performances.



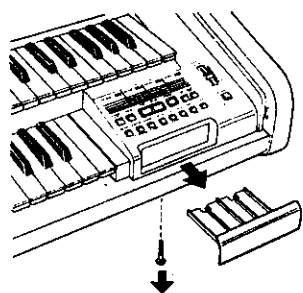
Installing the Digital Disk Recorder in your organ

Install the SY-FD20 Digital Disk Recorder (sold separately) in your organ.

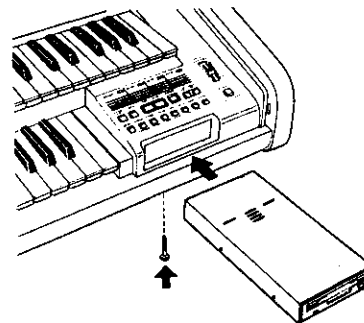
Installation

Make sure that the power to the organ is turned off.

1. Remove the cover from the connector unit (right end of the lower keyboard) by first removing the screw (beneath the keyboard) with a cross-point screwdriver.

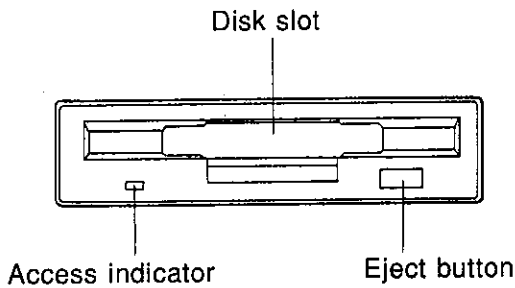


2. Insert the Digital Disk Recorder and push it in firmly and completely. Secure it with the screw you removed in step 1.



- Note: Be sure to affix the Digital Disk Recorder with the same screw which was used to affix the cover, in order to avoid damage to the Digital Disk Recorder.

Main parts of the Digital Disk Recorder



Eject button:

Press to remove the disk from the Digital Disk Recorder.

Access indicator:

Lights when data is being loaded from or saved to a disk.

- To prevent data loss, do not remove the disk from the Digital Disk Recorder or turn off the power when the access indicator is lit.

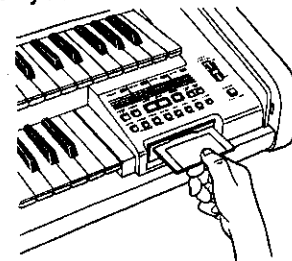
Practical applications

DISK FORMAT

New floppy disks can be used only after they have been formatted. Follow the procedure below to format a new disk or erase the contents of a recorded disk.

- This procedure clears the entire contents of the disk.
- Reformat a disk if it cannot be saved to or loaded from properly because of exposure to a magnetic field.
- If using commercially available floppy disks other than the SY-D20 Digital Memory Disk, be sure to use 3.5 inch 2DD (double-sided, double-density, double-track) floppy disks.

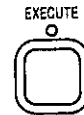
1. Insert the disk into the Digital Disk Recorder slot as shown in the illustration. Push it all the way in until you hear a click.



2. Use the **CONTROL 1** button to select **DISK FORMAT**.

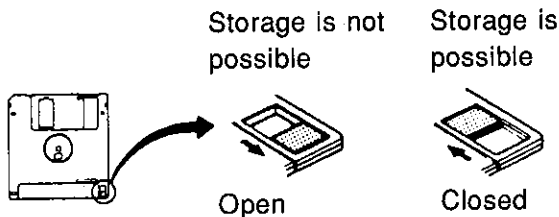
SOUND ○	CONTROL 1	CONTROL 2 ○	MIDI ○
○ REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
○ ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
○ TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
○ TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
○ TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	OTHERS

3. Press the **EXECUTE** button.



- Disk formatting begins. Formatting takes approximately one minute.
- When formatting is finished, "End" is shown on the display.

Note: The disk is provided with a write-protect window. To format the disk, the window must be closed, as illustrated.



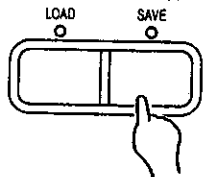
Saving a performance

Use the Digital Disk Recorder to save a performance stored in the **SEQUENCER** on a disk. You can store up to 20 complete performances on one disk.

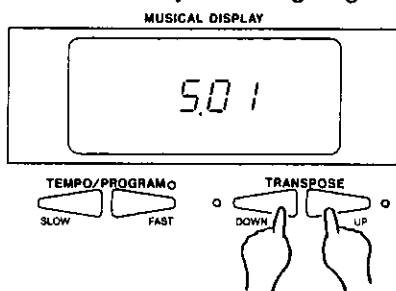
Save procedure

When a performance is saved, the various panel settings and function settings are saved along with the performance.

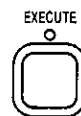
1. Store a performance in the **SEQUENCER**.
2. Insert a formatted disk into the slot of the Digital Disk Recorder.
3. Press the **SAVE** button to turn it on.



4. Use the **TRANSPOSE** buttons to assign a song number to the tune you are going to store (1~20).



- Song numbers which are already used flash on the display. If you wish to keep the previously stored song, select a different (unused) number for the new song.
- 5. Press the **EXECUTE** button.
- The stored contents of the **SEQUENCER** are copied to the disk.



- "S" appears on the display while the data is being saved, and when saving is completed, "End" is shown on the display.

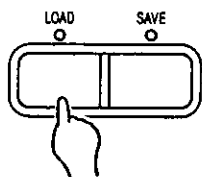
Loading the stored performance

You can recall (load) the performance you saved on the disk to the organ's **SEQUENCER**.

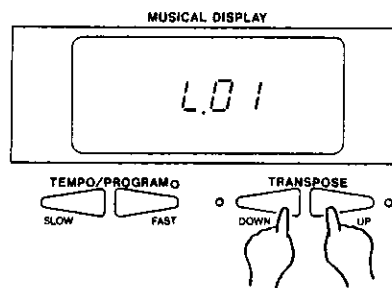
Load procedure

The load procedure causes any data which is currently stored in the **SEQUENCER** memory to be erased.

1. Insert the disk with the stored song into the Digital Disk Recorder.
2. Press the **LOAD** button to turn it on.



3. Use the **TRANSPOSE** buttons to display the number of the song you wish to recall from the disk.



- Numbers in which no song is stored flash on the display.

4. Press the **EXECUTE** button.



- The contents of the specified song are copied to the **SEQUENCER** memory.
- "L" appears on the display while the data is being loaded, and when loading is completed, "End" is shown on the display.

5. Press the **START/STOP** button.

♪ The recalled song begins to play automatically.

MEDLEY

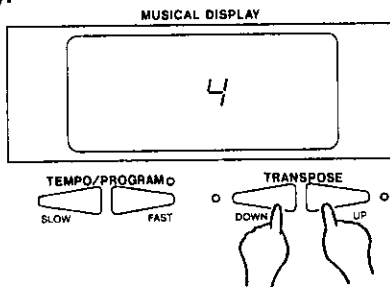
You can specify continuous automatic playback of songs recorded on a disk.

1. Insert the disk into the Digital Disk Recorder.

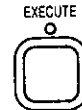
2. Use the **CONTROL 1** button to select **MEDLEY**.

SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI ○
○ REVERB DEPTH	○ SONG CLEAR	○ TRACK CLEAR	○ CHANNEL
○ ACCOMP VOLUME	○ INITIAL	○ TRACK ASSIGN	○ OCTAVE SHIFT
○ TUNING	○ SWITCH ASSIGN	○ BAR	○ LOCAL CONTROL
○ TREMOLO SPEED	○ MEDLEY	○ BEAT	○ COMPOSER
○ TOUCH SENSITIVITY	○ DISK FORMAT	○ QUANTIZE	○ VSC P-CHANGE
			○ OTHERS

3. Use the **TRANPOSE** buttons to display the last song number you wish to have played (1~20).



4. Press the **EXECUTE** button.



- The songs are repeatedly played back in order from the first (lowest number) recorded song through the song number you specified in step 3.
- If you press the **START/STOP** button during **MEDLEY** play, the tune currently playing stops and playback continues from the next recorded tune on the disk.

5. To stop **MEDLEY** play, press the **EXECUTE** button again.

6. To exit the **MEDLEY** play mode, press the **CONTROL 1** button and hold it until all the indicators are off.

- The organ returns to the normal performance mode.

Error messages

The following messages on the display indicate that a mistake has been made in using the functions.

Display	Remedy
oth Fd	The memory disk has not been formatted by the Digital Disk Recorder. • Insert a correctly formatted disk.
L Err	Loading failure. • Perform the loading procedure again.
no Fd	No memory disk in the Digital Disk Recorder. • Insert a memory disk.
no Sng	You have attempted to load a song number which has not been saved. • Load a song number which has been saved.
no ddr	No Digital Disk Recorder.
S Err	Saving failure. • Perform the saving procedure again.
Prt Er	The memory disk is write-protected. • Close the write-protect window of the disk.
Fd FUL	No remaining memory storage capacity. • Insert a new disk, and perform the save procedure after formatting it.
F Err	Formatting failure. • Perform the formatting procedure again.
P Err 1	You have attempted to save a song which is copy-protected. • A copy-protected song cannot be saved.

Warning:

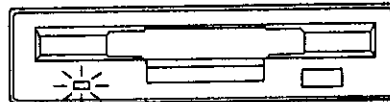
- Some pre-recorded disks (for example, those recorded by the manufacturer) are copy-protected. Data from these disks cannot be copied.
- When the power is turned off after a copy-protected song has been loaded, the **SEQUENCER** contents will be erased.
- If a copy-protected song has been loaded and you want to then record a new song in the **SEQUENCER** and save it on a disk, be sure to first turn the power off once or perform the initialization procedure.

Precautions to take when handling a disk

- Do not open the shutter and touch the recording surface of the disk.
- Fingerprints on the recording surface will gather dust and damage the disk.
- Do not place heavy objects on the disk or bend, throw or drop it.
- The disk may become deformed or damaged.
- Do not bring the disk near radios, TVs, or other devices that generate a magnetic field.
- This could cause the contents to be erased or generate errors.
- Never use or store the disk in places where it may be subjected to direct sunlight, dust, high temperatures, or high humidity.
- Do not use a disk that is wet or has eraser crumbs or metal powder on it.
- Do not disassemble the disk.
- Do not use thinner, alcohol or freon to clean the disk.
- After use, be sure to store the disk in its case.

Warning:

To prevent data loss, do not remove the disk from the Digital Disk Recorder or turn off the power when the access indicator is lit.

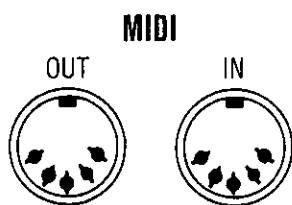


Part VIII MIDI (EN1/EN2)

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

About the MIDI terminals

EN1

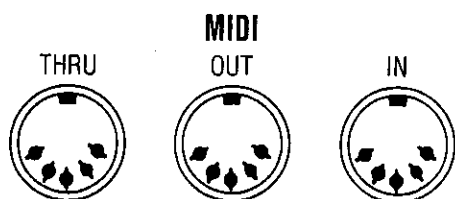


IN: The terminal by which this instrument receives data from other equipment.

OUT: The terminal that transmits data from this instrument to other equipment.

THRU: The terminal that transfers data from the **IN** terminal directly to other equipment (EN2).

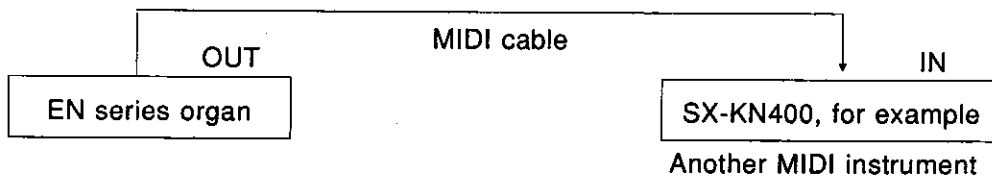
EN2



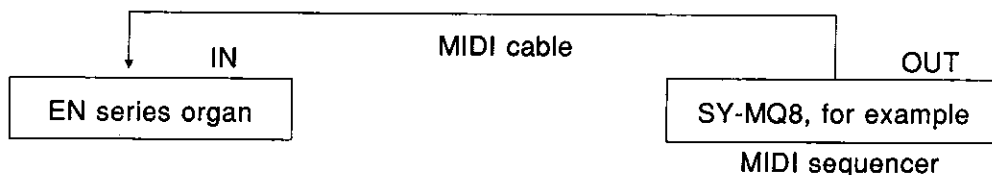
- For these connections, use a commercially available MIDI cable.
- Contact your Technics dealer for more information.

Connection examples

- To generate sound from a connected instrument by playing this instrument

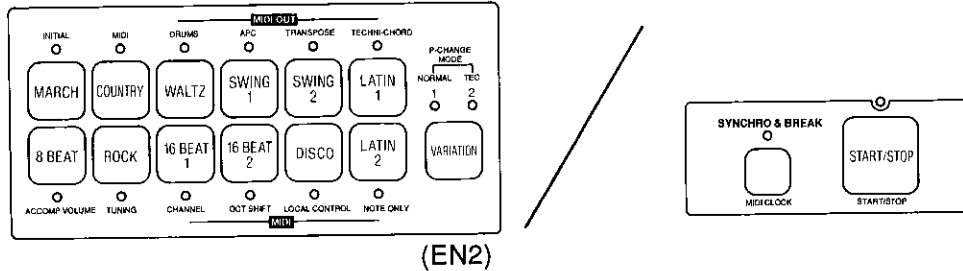


- To generate sound from this instrument by operating a connected MIDI sequencer



MIDI stickers

Before using the MIDI functions, remove the paper backing from the included MIDI stickers and affix them to the panel as shown in the diagrams below.



Practical applications

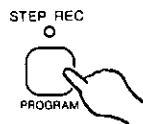
Transmitted/received data

The transmission/reception of all MIDI data messages for the following functions can be switched on or off as desired.

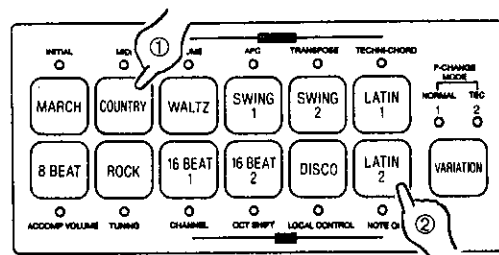
- Basic CHANNEL (EN2)
- OCT SHIFT (EN2)
- LOCAL CONTROL (EN2)
- NOTE ONLY
- START/STOP
- MIDI CLOCK
- P-CHANGE MODE
 - NORMAL
 - TEC
- MIDI OUT
 - DRUMS
 - APC
 - TRANSPOSE
 - TECHNI-CHORD

Setting the functions

Select the MIDI function you wish to set by first pressing the **PROGRAM** button, then the **MIDI** button, and then the button for the desired function.



Example: Selecting the **NOTE ONLY** function



- When you have completed making the setting, turn off the **PROGRAM** button.

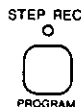
CHANNEL (EN2)

Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1~16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. Channel numbers have already been assigned to parts (default settings) but you can reassign channel numbers to parts by following this procedure.

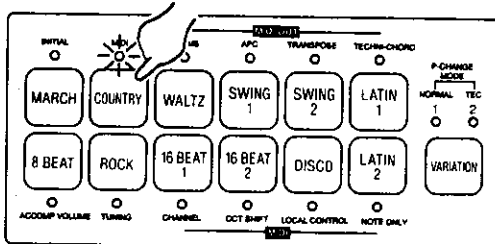
■ Default channel settings

Part name [name on display]	Channel
UPPER POLY [UPL]	1
UPPER SPECIAL [USP]	6
LOWER POLY [LPL]	2
LOWER SPECIAL [LSP]	7
BASS [bAS]	3
ACCOMP 1 [AC1]	5
ACCOMP 2 [AC2]	9
ACCOMP 3 [AC3]	10
DRUMS [dr]	15
CONTROL [CtL]	OFF [OF]

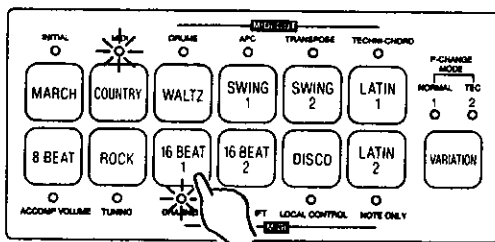
1. Turn on the **PROGRAM** button.



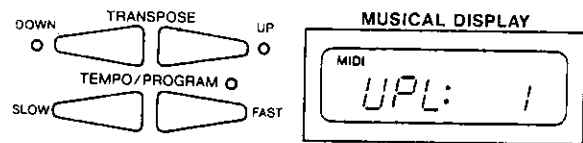
2. Turn on the **MIDI** button.



3. Turn on the **CHANNEL** button.



- Use the **TEMPO/PROGRAM** buttons to select the part.
 - Parts are indicated on the display as shown in the "Default channel settings" table, above.
- Use the **TRANPOSE** buttons to specify the channel number for the selected part.



- Select one from 1~16 or OFF. When set to OFF, MIDI data for that part will not be received/transmitted.
- The same channel number cannot be assigned to more than one part. If you attempt to do so, an error tone will sound.
- Repeat steps 4 and 5 to reassign channel numbers to other parts as desired.
- When you have completed making the settings, turn off the **PROGRAM** button.
 - The channel settings for the **UPPER** and **LOWER** parts are effective when MIDI data is being received. Transmission of MIDI data for normal performance on the upper and lower keyboards is handled on the **POLY** channel and is unrelated to the part buttons.

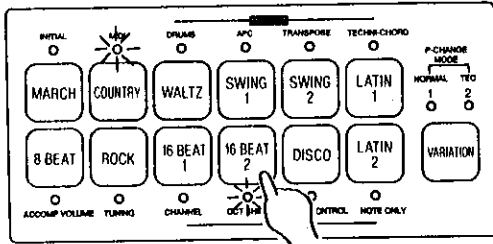
About the EN1

The transmission of MIDI data for normal performance is handled on channel 1 for the upper keyboard and channel 2 for the lower keyboard, and is unrelated to the settings of the part buttons. MIDI data for the upper keyboard **POLY** is received on channel 1, for the upper keyboard **SOLO** on channel 4 and for the lower keyboard on channel 2.

OCT SHIFT (EN2)

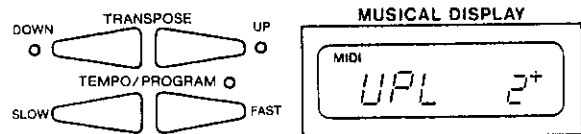
Set the octave shift value for transmitted key note data of each part independently.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.
3. Press the **OCT SHIFT** button.



4. Use the **TEMPO/PROGRAM** buttons to select the part.
 - Select from **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **BASS (BAS)**, **ACCOMP 1 (AC1)**, **ACCOMP 2 (AC2)**, **ACCOMP 3 (AC3)** and **DRUMS (dr)**.

5. Use the **TRANPOSE** buttons to specify the amount of octave shift.



- Select from -3, -2, -1, 0, +1, +2, +3.
- Octave shift is set for **MIDI OUT** data only; however, the **MIDI OUT** and **MIDI IN** octave shifts are linked. For example, if the **MIDI OUT** octave shift is set to +1, the **MIDI IN** octave shift is automatically set to -1.

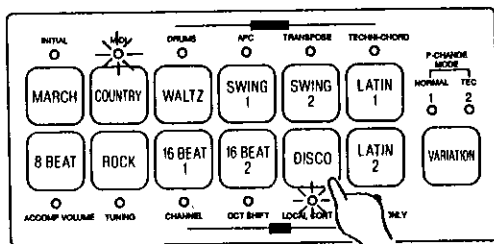
6. When you have completed making the settings, turn off the **PROGRAM** button.

Practical applications

LOCAL CONTROL (EN2)

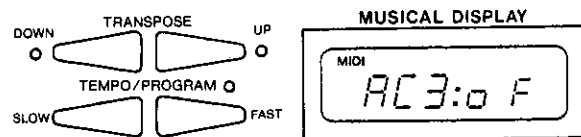
Specify, for each part, whether this instrument's sound generator is enabled or not.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.
3. Press the **LOCAL CONTROL** button.



4. Use the **TEMPO/PROGRAM** buttons to select the part.
 - Select from **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **BASS (BAS)**, **ACCOMP 1 (AC1)**, **ACCOMP 2 (AC2)**, **ACCOMP 3 (AC3)** and **DRUMS (dr)**.

5. Use the **TRANPOSE** buttons to select on or off.



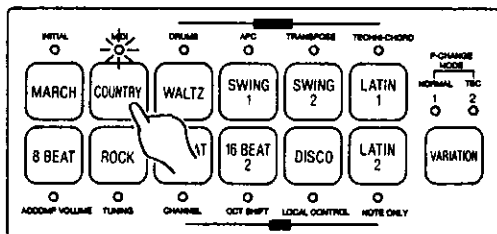
- **on**
The performance played on this part is transmitted as MIDI data and also sounds from this instrument.
- **off**
The performance played on this part is transmitted as MIDI data but does not sound from this instrument.

6. When you have completed making the setting, press the **PROGRAM** button to turn it off.

NOTE ONLY

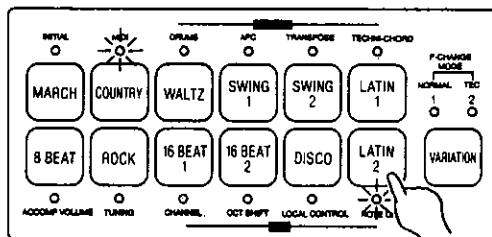
Specify whether or not to transmit/receive only note data (keyboard note on/off).

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.



(EN2)

3. Use the **NOTE ONLY** button to specify the on/off status.



- *nt* is shown on the display. (EN2)

On (indicator is lit): Of the performance data, only note on/off and all-note-off data is transmitted/received.

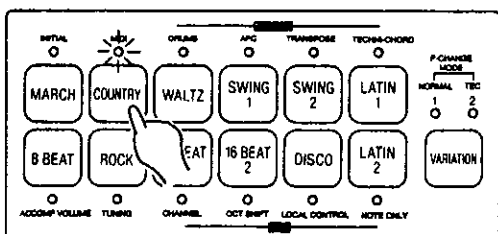
Off (indicator is not lit): All performance data used in this instrument is transmitted/received.

4. When you have completed making the setting, press the **PROGRAM** button to turn it off.

START/STOP

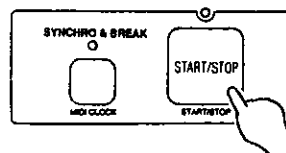
Specify whether or not **RHYTHM** and sequencer start/stop messages are received/transmitted.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.



(EN2)

3. Use the **START/STOP** button to specify the on/off status.



- *Str* is shown on the display.

On (indicator is lit): **RHYTHM** and sequencer messages are received/transmitted.

Off (indicator is not lit): **RHYTHM** and sequencer start/stop messages are not received/transmitted.

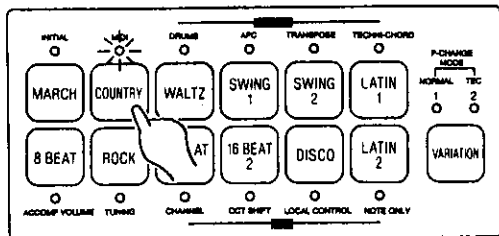
4. When you have completed making the setting, press the **PROGRAM** button to turn it off.

Practical applications

MIDI CLOCK

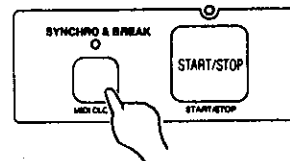
Select whether the **RHYTHM** and sequencer performance is controlled by the internal clock or by the clock of the connected instrument.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.



(EN2)

3. Use the **MIDI CLOCK** button to specify the on/off status.



- \llcorner is shown on the display.

On (indicator is lit): The performance is controlled by the connected instrument's clock. During the performance, the tempo is displayed as ---.

Off (indicator is not lit): The performance is controlled by this instrument's clock.

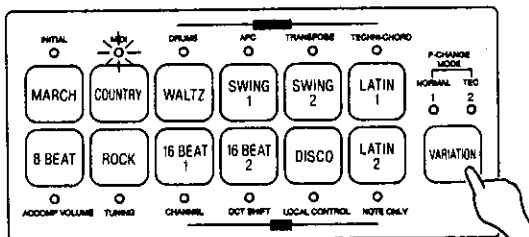
4. When you have completed making the setting, press the **PROGRAM** button to turn it off.

Practical applications

P-CHANGE MODE

You can match the sound (program) change data when transmitting/receiving between different Technics instruments.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.
3. Use the **P-CHANGE MODE** button to select **NORMAL** or **TEC**.



(EN2)

NORMAL: The program change numbers correspond to the order of the buttons in the **SOUND SELECT** section as they are lined up from the leftmost button of the bottom row and beginning with 0. nor is shown on the EN1 display, and $nor:P$ on the EN2 display.

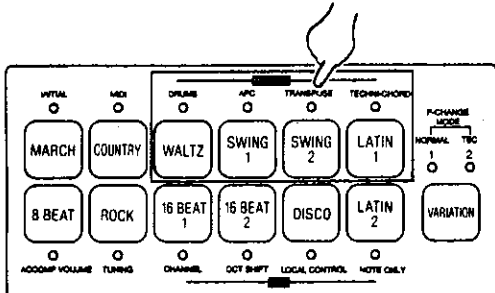
TEC: Program change numbers are standardized among all Technics models which are set to this mode. In other words, the program change number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode. tec is shown on the EN1 display, and $tec:P$ on the EN2 display.

4. When you have completed making the setting, press the **PROGRAM** button to turn it off.

MIDI OUT

Specify whether or not **DRUMS**, **APC**, **TRANSPOSE** and **TECHNI-CHORD** messages are transmitted.

1. Turn on the **PROGRAM** button.
2. Turn on the **MIDI** button.
3. Turn on the **MIDI OUT** buttons (**DRUMS**, **APC**, **TRANSPOSE**, **TECHNI-CHORD**) for the data you wish to have transmitted.



(EN2)

DRUMS: When this button is on, the note on/off data for the selected rhythm pattern is transmitted as performance data. *dr* is shown on the display.

APC: When this button is on, the note on/off data for the **AUTO PLAY CHORD** accompaniment pattern is transmitted as performance data. *APC* is shown on the display.

TRANSPOSE: When this button is on, the note number of the transposed note (rather than the note number of the played key) is transmitted. *ESP* is shown on the display.

TECHNI-CHORD: When this button is on, notes created by the **TECHNI-CHORD** function are transmitted. *ECH* is shown on the display.

4. When you have completed making the settings, press the **PROGRAM** button to turn it off.

Part IX MIDI (EN3/EN4)

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

About the MIDI terminals



IN: The terminal by which this instrument receives data from other equipment.

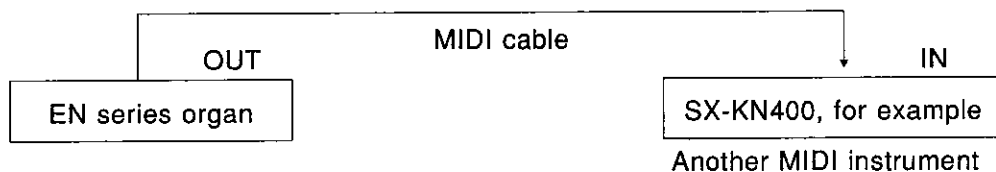
OUT: The terminal that transmits data from this instrument to other equipment.

THRU: The terminal that transfers data from the **IN** terminal directly to other equipment.

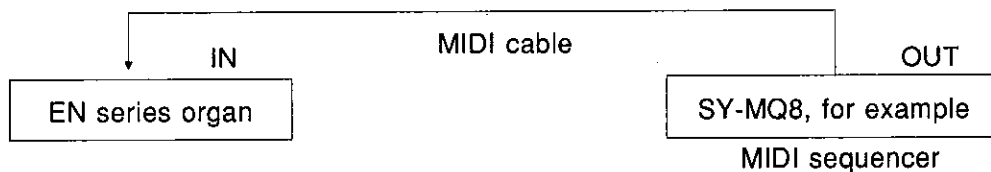
- For these connections, use a commercially available MIDI cable.
- Contact your Technics dealer for more information.

Connection examples

- To generate sound from a connected instrument by playing this instrument



- To generate sound from this instrument by operating a connected MIDI sequencer

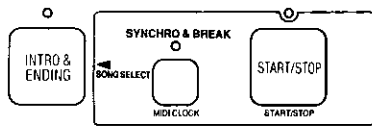
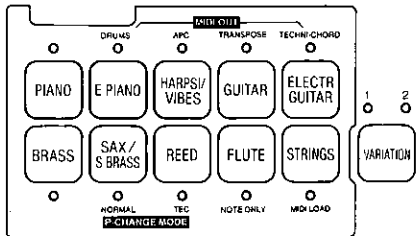


MIDI stickers

Before using the MIDI functions, remove the paper backing from the included MIDI stickers and affix them to the panel as shown in the diagrams below

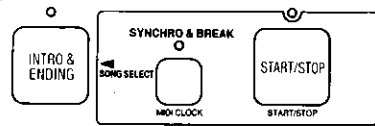
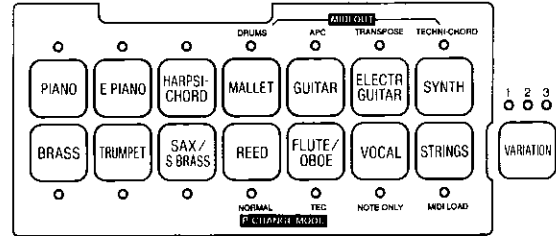
EN3

(UPPER SOUND SELECT)



EN4

(UPPER SOUND SELECT)



Transmitted/received data

The transmission/reception of all MIDI data messages for the following functions can be switched on or off as desired.

- Basic CHANNEL
- OCTAVE SHIFT
- LOCAL CONTROL
- VSC P-CHANGE
- START/STOP
- MIDI CLOCK
- SONG SELECT
- MIDI LOAD
- NOTE ONLY
- P-CHANGE MODE
- NORMAL
- TEC
- MIDI OUT
- DRUMS
- APC
- TRANSPOSE
- TECHN-CHORD

Select the desired MIDI function by pressing the **MIDI** button the number of times necessary to make the corresponding indicator light.

SOUND <input type="checkbox"/>	CONTROL 1 <input type="checkbox"/>	CONTROL 2 <input type="checkbox"/>	MIDI <input type="checkbox"/>
<input checked="" type="checkbox"/> DEVERS DEPTH	<input type="checkbox"/> SONG CLEAR	<input type="checkbox"/> TRACK CLEAR	<input type="checkbox"/> CHANNEL
<input checked="" type="checkbox"/> ACCOMP VOLUME	<input type="checkbox"/> INITIAL	<input type="checkbox"/> TRACK ASSIGN	<input type="checkbox"/> OCTAVE SHIFT
<input type="checkbox"/> TUNING	<input type="checkbox"/> SWITCH ASSIGN	<input type="checkbox"/> BAR	<input type="checkbox"/> LOCAL CONTROL
<input type="checkbox"/> TREMOLO SPEED	<input type="checkbox"/> MEDLEY	<input type="checkbox"/> BEAT	<input type="checkbox"/> COMPOSER
<input type="checkbox"/> TOUCH SENSITIVITY	<input type="checkbox"/> DISK FORMAT	<input type="checkbox"/> QUANTIZE	<input type="checkbox"/> VSC P-CHANGE
			<input type="checkbox"/> OTHERS

- For the **START/STOP** and subsequent functions in the list, first use the **MIDI** button to select **OTHERS**, then turn on/off the functions using the buttons indicated by the MIDI stickers. When a function is turned on or off, the function name appears on the display.
- To cancel the function-setting mode and return to the normal status, press the **MIDI** button and hold it until all the indicators are off.

Practical applications

Setting the functions

Select the MIDI function you wish to set and follow the respective procedure described below.

CHANNEL

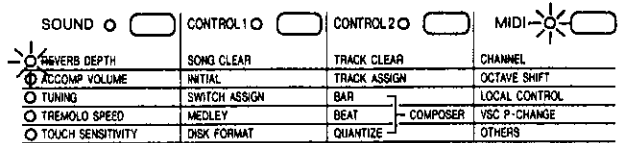
Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1~16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. Channel numbers have already been assigned to parts (default settings) but you can reassign channel numbers to parts as follows.

■ Default channel settings

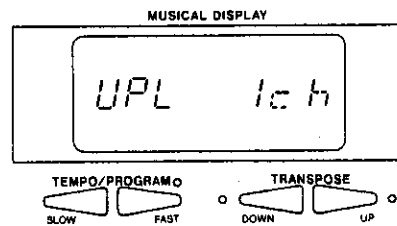
Part name [name on display]	Channel
UPPER POLY [UPL]	1
UPPER SPECIAL [USP]	6
UPPER SOLO [USL] (EN4)	4
LOWER POLY [LPL]	2
LOWER SPECIAL [LSP]	7
LOWER SOLO [LSL] (EN4)	8
BASS [bAS]	3
ACCOMP 1 [AC1]	5
ACCOMP 2 [AC2]	9
ACCOMP 3 [AC3]	10
DRUMS [dr]	15
CONTROL [CtL]	OFF

- The channel settings for the **UPPER** and **LOWER** parts are effective during sequencer recording and playback and when MIDI data is being received. Transmission of MIDI data for normal performance on the upper and lower keyboards is handled on the **POLY** channel and is unrelated to the **UPPER** or **LOWER ORCHESTRAL CONDUCTOR** settings.

- Use the **MIDI** button to select **CHANNEL**.



- Use the **TEMPO/PROGRAM** buttons to select the part.
 - Parts are indicated on the display as shown in the "Default channel settings" table, above.
- Use the **TRANSPOSE** buttons to specify the channel number for the selected part.



- Select one from 1~16 or OFF. When set to OFF, MIDI data for that part will not be received/transmitted.
 - The same channel number cannot be assigned to more than one part. If you attempt to do so, an error tone will sound.
- Repeat steps 2 and 3 to reassign channel numbers to other parts as desired.

OCTAVE SHIFT

Set the octave shift value for transmitted key note data of each part independently.

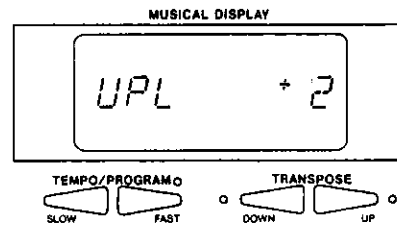
1. Use the **MIDI** button to select **OCTAVE SHIFT**.

SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input checked="" type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input checked="" type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input checked="" type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input checked="" type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **TEMPO/PROGRAM** buttons to select the part.

- Select from **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **UPPER SOLO (USL) (EN4)**, **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **LOWER SOLO (LSL) (EN4)**, **BASS (bAS)**, **ACCOMP 1 (AC1)**, **ACCOMP 2 (AC2)**, **ACCOMP 3 (AC3)** and **DRUMS (dr)**.

3. Use the **TRANPOSE** buttons to specify the amount of octave shift.



- Select from -3, -2, -1, 0, +1, +2, +3.
- Octave shift is set for **MIDI OUT** data only; however, the **MIDI OUT** and **MIDI IN** octave shifts are linked. For example, if the **MIDI OUT** octave shift is set to +1, the **MIDI IN** octave shift is automatically set to -1.

LOCAL CONTROL

Specify, for each part, whether this instrument's sound generator is enabled or not.

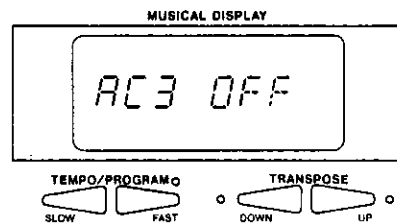
1. Use the **MIDI** button to select **LOCAL CONTROL**.

SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input checked="" type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input checked="" type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input checked="" type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input checked="" type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **TEMPO/PROGRAM** buttons to select the part.

- Select from **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **UPPER SOLO (USL) (EN4)**, **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **LOWER SOLO (LSL) (EN4)**, **BASS (bAS)**, **ACCOMP 1 (AC1)**, **ACCOMP 2 (AC2)**, **ACCOMP 3 (AC3)** and **DRUMS (dr)**.

3. Use the **TRANPOSE** buttons to select on or OFF.



■ ON

The performance played on this part is transmitted as MIDI data and also sounds from this instrument.

■ OFF

The performance played on this part is transmitted as MIDI data but does not sound from this instrument.

VSC P-CHANGE

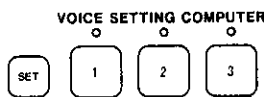
Store the program changes in each **VOICE SETTING COMPUTER** button. During the performance, you can send program change data for multiple parts with the **VOICE SETTING COMPUTER** buttons.

1. Use the **MIDI** button to select **VSC P-CHANGE**.

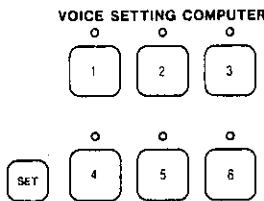
SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI
○ REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
○ ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
○ TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
○ TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
○ TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Press a numbered button in the **VOICE SETTING COMPUTER** section.

(EN3)



(EN4)

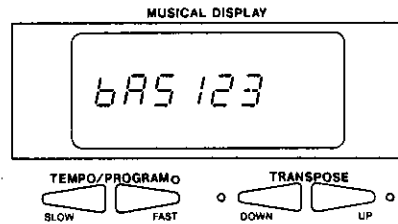


- The indicator for the selected number button lights.

3. Use the **TEMPO/PROGRAM** buttons to select a part.

- Select from **UPPER POLY (UPL)**, **UPPER SPECIAL (USP)**, **UPPER SOLO (USL)** (EN4), **LOWER POLY (LPL)**, **LOWER SPECIAL (LSP)**, **LOWER SOLO (LSL)** (EN4) and **BASS (bAS)**.

4. Use the **TRANSPOSE** buttons to specify the program change number.



- Select one from OFF or 0~127.
- If a part is set to OFF, program change data for that part is not sent when a **VOICE SETTING COMPUTER** button is pressed.

5. If desired, repeat steps 3 and 4 for other parts.

6. If desired, repeat steps 2 to 5 for the other numbered buttons.

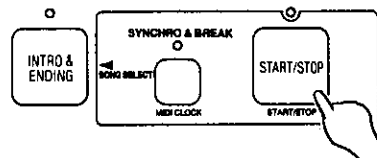
START/STOP

Specify whether or not **RHYTHM** and **SEQUENCER** start/stop messages are received/transmitted.

1. Use the **MIDI** button to select **OTHERS**.

SOUND ○	CONTROL 1 ○	CONTROL 2 ○	MIDI
○ REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
○ ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
○ TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
○ TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
○ TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **START/STOP** button to specify the on/off status.



- **5Er** is shown on the display.

On (indicator is lit): **RHYTHM** and **SEQUENCER** messages are received/transmitted.

Off (indicator is not lit): **RHYTHM** and **SEQUENCER** start/stop messages are not received/transmitted.

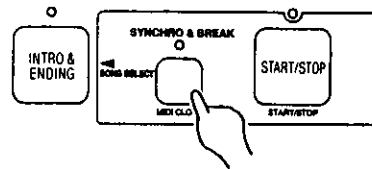
MIDI CLOCK

Select whether the **RHYTHM** and **SEQUENCER** performance is controlled by the internal clock or by the clock of the connected instrument.

1. Use the **MIDI** button to select **OTHERS**.

SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **MIDI CLOCK** button to select the internal clock or external clock.



- **CL** is shown on the display.

On (indicator is lit): The performance is controlled by the connected instrument's clock. During the performance, the tempo is displayed as ♩ = ---.

Off (indicator is not lit): The performance is controlled by this instrument's clock.

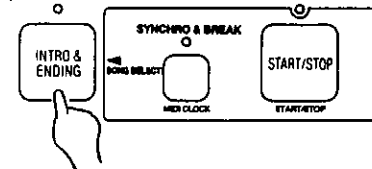
SONG SELECT

Specify whether or not song number data is transmitted/received.

1. Use the **MIDI** button to select **OTHERS**.

SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	VSC P-CHANGE
			OTHERS

2. Use the **SONG SELECT** button to specify whether or not song number data can be exchanged.



- **SONG** is shown on the display.

On (indicator is lit): Song number data can be transmitted/received.

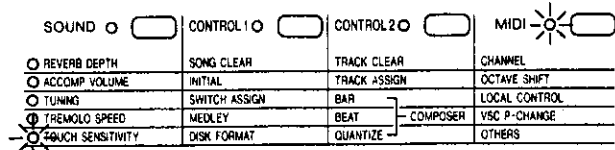
Off (indicator is not lit): Song number data cannot be exchanged.

Practical applications

MIDI LOAD

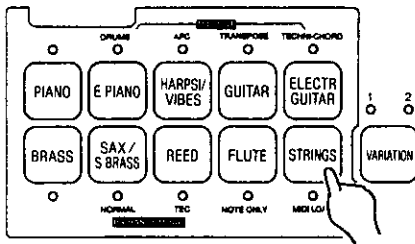
Specify whether or not the stored MIDI settings are also recalled when loading data from a memory disk.

1. Use the **MIDI** button to select **OTHERS**.

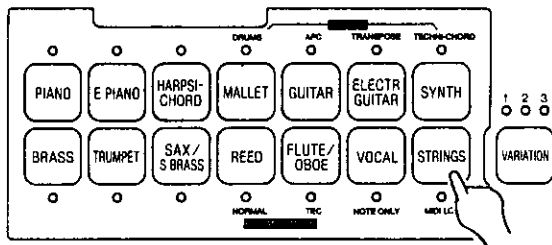


2. In the **UPPER SOUND SELECT** section, use the **MIDI LOAD** button to specify whether or not the stored MIDI settings are recalled.

EN3



EN4



• **LOAD** is shown on the display.

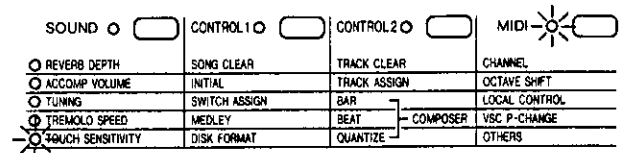
On (indicator is lit): The stored MIDI settings are recalled when loading data from a disk.

Off (indicator is not lit): The stored MIDI settings are not recalled.

NOTE ONLY

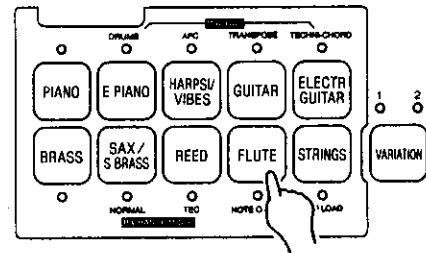
Specify whether or not to transmit/receive only note data (keyboard note on/off).

1. Use the **MIDI** button to select **OTHERS**.

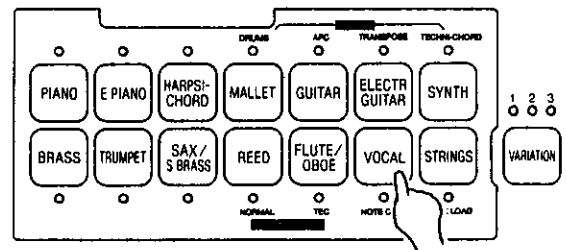


2. In the **UPPER SOUND SELECT** section, use the **NOTE ONLY** button to specify the on/off status.

EN3



EN4



• **note** is shown on the display.

On (indicator is lit): Of the performance data, only note on/off and all-note-off data is transmitted/received.

Off (indicator is not lit): All performance data used in this instrument is transmitted/received.

P-CHANGE MODE

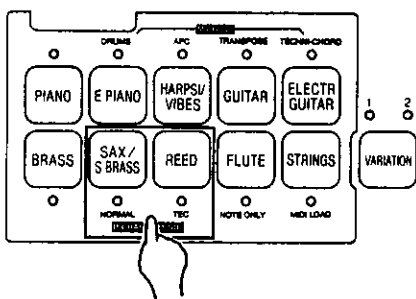
You can match the sound (program) change data when transmitting/receiving between different Technics instruments.

1. Use the **MIDI** button to select **OTHERS**.

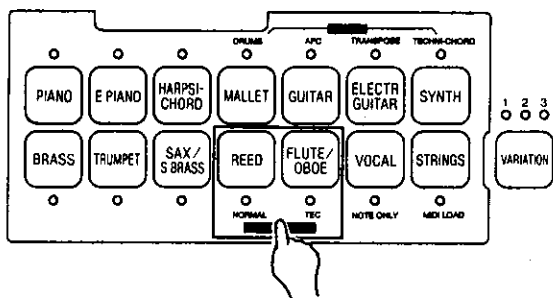
SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	YSC P-CHANGE
			OTHERS

2. In the **UPPER SOUND SELECT** section, select **NORMAL** or **TEC**.

EN3



EN4



NORMAL: The program change numbers correspond to the order of the buttons in the **SOUND SELECT** section as they are lined up from the leftmost button of the bottom row and beginning with 0. *P-nor* is shown on the display.

TEC: Program change numbers are standardized among all Technics models which are set to this mode. In other words, the program change number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode. *P-tec* is shown on the display.

MIDI OUT

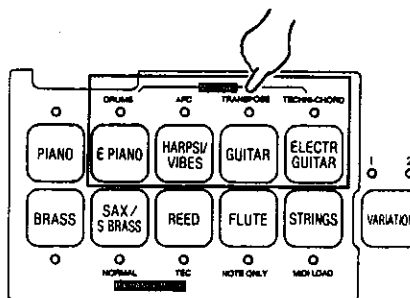
Specify whether or not **DRUMS**, **APC**, **TRANSPOSE** and **TECHNI-CHORD** messages are transmitted.

1. Use the **MIDI** button to select **OTHERS**.

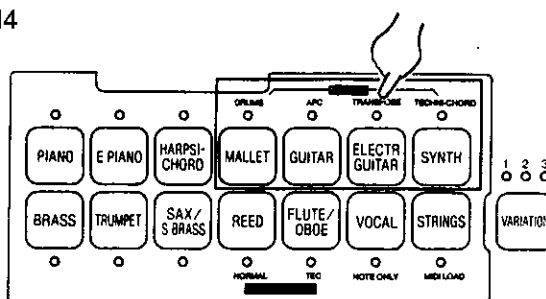
SOUND <input type="radio"/>	CONTROL 1 <input type="radio"/>	CONTROL 2 <input type="radio"/>	MIDI <input checked="" type="radio"/>
<input type="radio"/> REVERB DEPTH	SONG CLEAR	TRACK CLEAR	CHANNEL
<input type="radio"/> ACCOMP VOLUME	INITIAL	TRACK ASSIGN	OCTAVE SHIFT
<input type="radio"/> TUNING	SWITCH ASSIGN	BAR	LOCAL CONTROL
<input type="radio"/> TREMOLO SPEED	MEDLEY	BEAT	COMPOSER
<input checked="" type="radio"/> TOUCH SENSITIVITY	DISK FORMAT	QUANTIZE	YSC P-CHANGE
			OTHERS

2. In the **UPPER SOUND SELECT** section, turn on the **MIDI OUT** buttons (**DRUMS**, **APC**, **TRANSPOSE**, **TECHNI-CHORD**) for the data you wish to have transmitted.

EN3



EN4



DRUMS: When this button is on, the note on/off data for the selected rhythm pattern is transmitted as performance data. *dr* is shown on the display.

APC: When this button is on, the note on/off data for the **AUTO PLAY CHORD** accompaniment pattern is transmitted as performance data. *APC* is shown on the display.

TRANSPOSE: When this button is on, the note number of the transposed note (rather than the note number of the played key) is transmitted. *ESP* is shown on the display.

TECHNI-CHORD: When this button is on, notes created by the **TECHNI-CHORD** function are transmitted. *ech* is shown on the display.

Practical applications

MIDI Implementation Chart

Organ

[SX-EN1/EN2/EN3/EN4]

(Transmitted)

Function	UPPER POLY, SPECIAL (EN2/EN3/EN4), SOLO (EN1/EN4)	LOWER POLY, SPECIAL (EN2/EN3/EN4), SOLO (EN4)	ACCOMP 1, 2, 3	BASS	DRUMS	CONTROL	Remarks		
Basic Channel	Default	1 1-16	2 1-16	5 (1), 9 (2), 10 (3) 1-16	3 1-16	15 1-16	16 1-16	(EN1) memorized (EN2/EN3/EN4)	
	Changed	x 1-16	x 1-16	x 1-16	x 1-16	x 1-16	x 1-16	(EN1) (EN2/EN3/EN4)	
Mode	Default	3	3	3	3	3	3	OMNI OFF, POLY MODE	
	Messages	x	x	x	x	x	x		
	Altered	—	—	—	—	—	—		
Note Number		0~127	0~127	0~127	0~127	0~127	—	Changes depending on the position of the transpose control and octave shift.	
	True voice	—	—	—	—	—	—		
Velocity	Note ON	x o	x o	o***	o**	o*	—	(EN1) (EN2/EN3/EN4)	
	Note OFF	x (9nH:v=0)	x (9nH:v=0)	x (9nH:v=0)	x (9nH:v=0)	x (9nH:v=0)	—		
After Touch	Key's	x	x	x	x	x	x		
	Ch's	x	x	x	x	x	x		
Pitch Bender		o***	o***	o***	o***	x	x	(EN1/EN2) (EN3/EN4)	
Control Change	1	o***	o***	o***	o***	x	x	modulation (EN1/EN2) (EN3/EN4)	
	7	o	o	o	o	o	o	volume (main volume)	
	11	x	x	x	x	x	o	expression pedal	
	64	o	o	o	o	x	x	sustain	
	80	x	o**	x	x	x	x	auto play chord	
	82	x	x	x	x	o	x	intro, fill in, ending	
	92	o**	o**	x	x	x	x	tremolo	
94	o	o	o	o	x	x	effect		
Prog Change		o	o	o	o	o	x		
	True #	—	—	—	—	—	—		
System exclusive	x								
System common	Song Pos	x							
	Song Sel	x (EN1/EN2) OX (EN3/EN4)						0~19	
	Tune	x							
System Real Time	Clock	o							
	Commands	OX						start/stop, continue	
Aux Messages	Local ON/OFF	x	x	x	x	x	—		
	All notes OFF	o	o	o	o	o	—		
	Active Sense	o							
	Reset	x							
Notes	o*AUTO PLAY CHORD pattern only o**POLY part only o***AUTO PLAY CHORD or SEQUENCER PLAY only OXWhether or not the data for each of these items is transmitted can be set.								

Practical applications

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

o: Yes
 x: No

MIDI Implementation Chart

Organ

[SX-EN1/EN2/EN3/EN4]

(Recognized)

Function		UPPER POLY, SPECIAL (EN2/EN3/EN4), SOLO (EN1/EN4)	LOWER POLY, SPECIAL (EN2/EN3/EN4), SOLO (EN4)	ACCOMP 1, 2, 3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1 (POLY), 4 (SOLO) 1-16	2 1-16	5 (1), 9 (2), 10 (3) 1-16	3 1-16	15 1-16	16 1-16	(EN1) memorized (EN2/EN3/EN4)
	Changed	x 1-16	x 1-16	x 1-16	x 1-16	x 1-16	x 1-16	(EN1) (EN2/EN3/EN4)
Mode	Default	3	3	3	3	3	3	OMNI OFF, POLY MODE
	Messages	x	x	x	x	x	x	
	Altered	—	—	—	—	—	—	
Note Number	True voice	0~127	0~127	0~127	0~127	0~127	—	Changes depending on the position of the transpose control and octave shift.
	Velocity	0~127	0~127	0~127	0~127	48~81	—	
Velocity	Note ON	○	○	○	○	○	—	
	Note OFF	x	x	x	x	x	—	
After Touch	Key's	x	x	x	x	x	x	
	Ch's	x	x	x	x	x	x	
Pitch Bender		○	○	○	○	x	x	
Control Change	1	○	○	○	○	x	x	modulation
	7	○	○	○	○	○	○	volume (main volume)
	11	x	x	x	x	x	○	expression pedal
	64	○	○	○	○	x	x	sustain
	80	x	○**	x	x	x	x	auto play chord
	82	x	x	x	x	○	x	intro, fill in, ending
	92	○**	○**	x	x	x	x	tremolo
94	○	○	○	○	x	x	effect	
Prog Change	True #	○ 0-9 0-9 0-13	○ 0-7 0-7 0-9	○ 0-7 0-7 0-9	○ 0-3 0-3 0-4	○ 0-11 0-19 0-21	x —	(EN1/EN2) (EN3) (EN4)
	System exclusive	x						
System common	Song Pos	x						
	Song Sel	x (EN1/EN2) ○x (EN3/EN4)						0~19
	Tune	x						
System Real Time	Clock	○						
	Commands	○x						start/stop, continue
Aux Messages	Local ON/OFF	x	x	x	x	x	—	
	All notes OFF	○	○	○	○	○	—	
	Active Sense	○						
	Reset	x						
Notes	○*AUTO PLAY CHORD pattern only ○**POLY part only ○XWhether or not the data for each of these items is received can be set.							

Practical applications

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

○: Yes
x: No

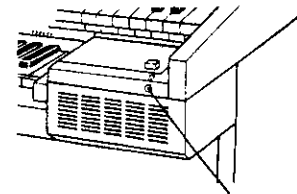
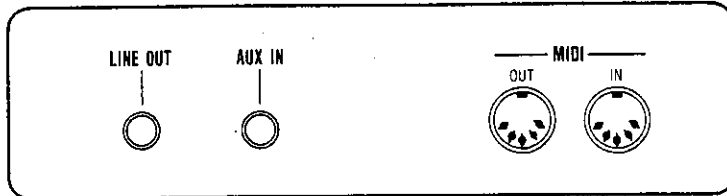
Option and connections

This page shows the optional accessory that is available for your Technics Organ. It can make your instrument more versatile and fun to play than it already is.

Also indicated are the many possible connections to the organ's terminals.

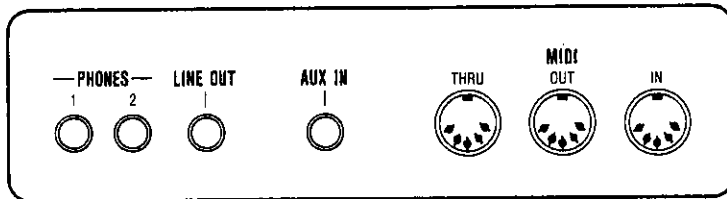
Connections

EN1
(On the rear panel)

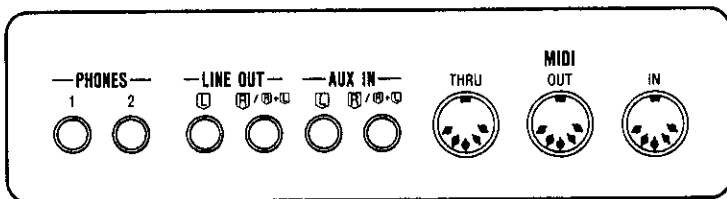


Headphone terminal

EN2/EN3
(Beneath the right side of the keyboard)



EN4
(Beneath the right side of the keyboard)



PHONES

For silent practice, headphones (option) may be used. When plugged in, the speaker system is automatically switched off, and the sound is heard only through the headphones.

AUX IN (input level 0.5 Vrms, 33 kΩ)

Other instruments such as a sound generator can be connected to this terminal, and the sound will be output from the Organ's speakers.

EN4: To receive monaural sound, connect the other instrument to the **R/R+L** terminal. (Do not connect the **L** terminal.)

LINE OUT (output level 1.5 Vrms, 600 Ω)

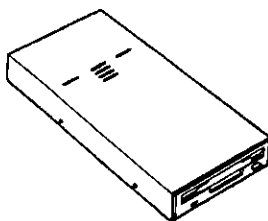
By connecting an external high-power amplifier, the sound can be reproduced at a high volume.

EN4: To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

MIDI

These terminals are for connection to another MIDI instrument. (Refer to page 85 [EN1/EN2] or page 92 [EN3/EN4].)

Separately sold option (EN3/EN4)



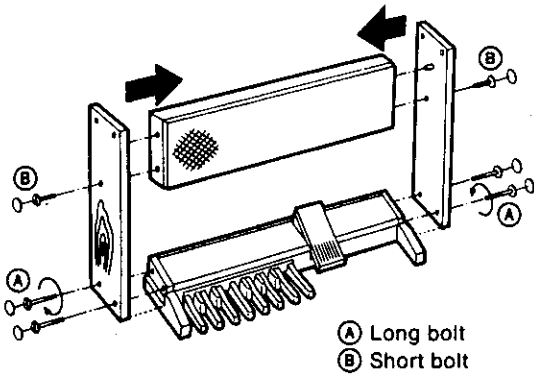
SY-FD20
Digital Disk Recorder

Assembly (EN1)

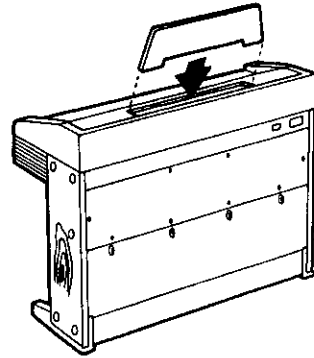
Assemble your Technics organ as shown in the following figures.
To disassemble the organ, reverse the procedure.

- To prevent the upper organ part from falling off the lower organ part, secure it firmly with the bolts.

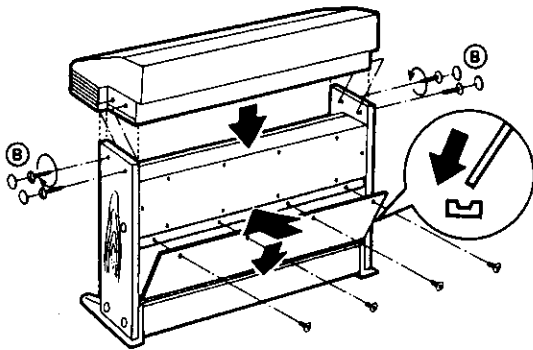
1. Assemble the lower organ part.



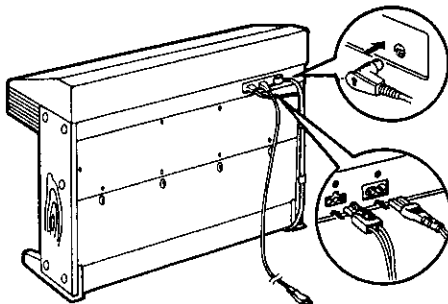
4. Insert the music stand as shown.



2. Attach the upper organ part to the lower organ part. Then attach the rear panel as shown.



3. Connect the power cord, speaker cord and pedal cord as shown.

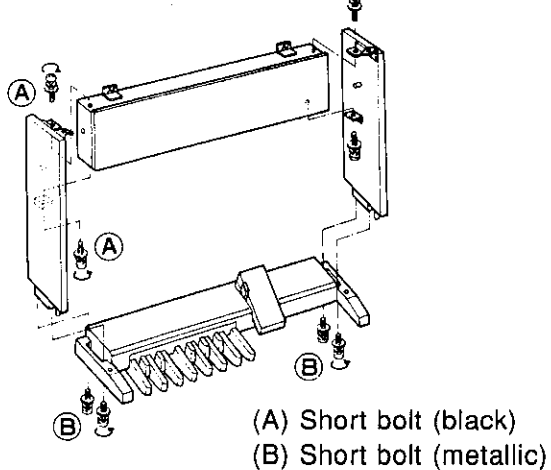


Assembly (EN2)

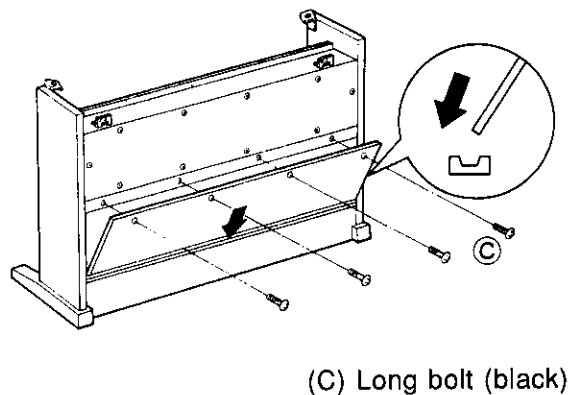
Assemble your Technics organ as shown in the following figures.
To disassemble the organ, reverse the procedure.

- To prevent the upper organ part from falling off the lower organ part, secure it firmly with the bolts.

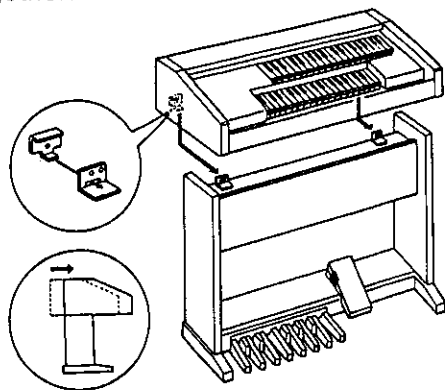
1. Assemble the lower organ part.



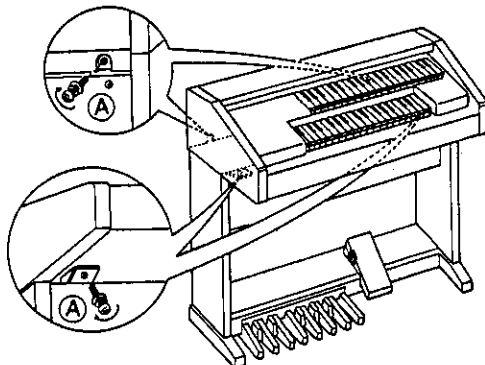
2. Attach the rear panel as shown.



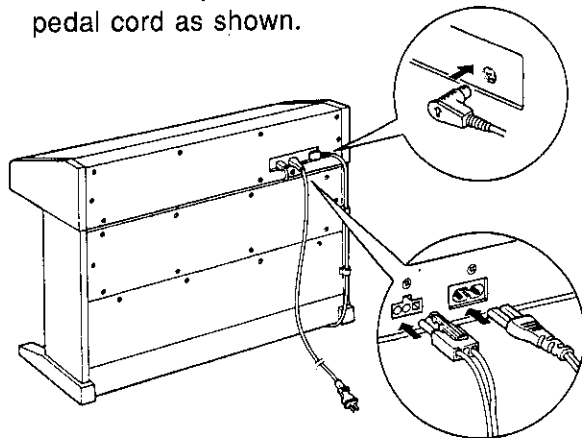
3. Place the upper organ part on the lower organ part, making sure to fit the metal pieces together.



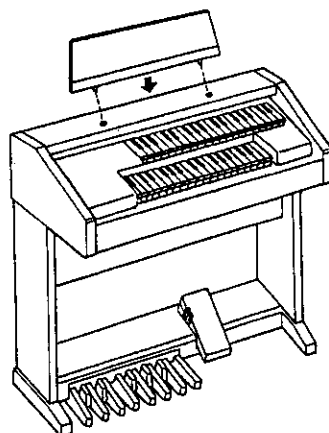
4. Using the four bolts (A), secure the upper organ part to the lower organ part as shown in the figure.



5. Connect the power cord, speaker cord and pedal cord as shown.



6. Insert the music stand as shown.



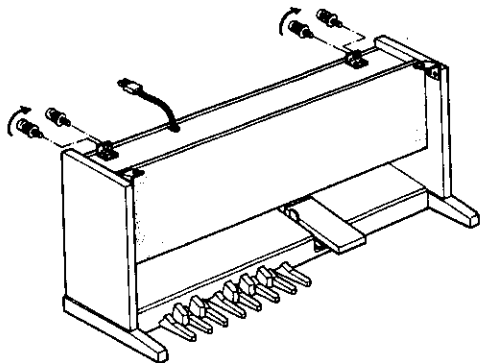
Assembly (EN3/EN4)

Assemble your Technics organ as shown in the following figures.

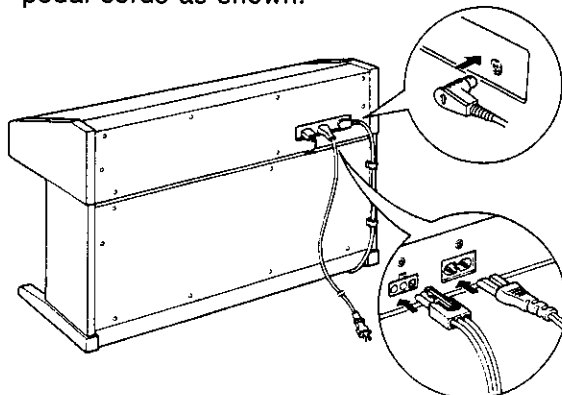
To disassemble the organ, reverse the procedure.

- To prevent the upper organ part from falling off the lower organ part, secure it firmly with the bolts.

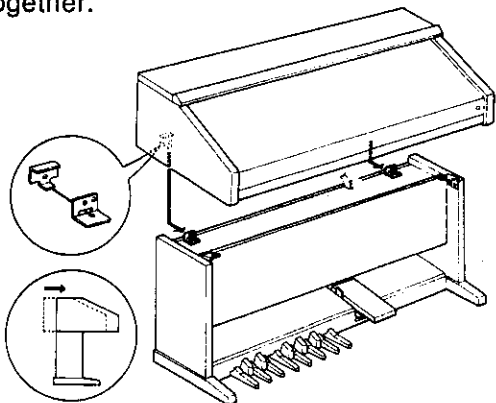
- 1.** On the lower organ part, remove the four bolts from the metal joints. Lay the cords to the back of the lower organ part.



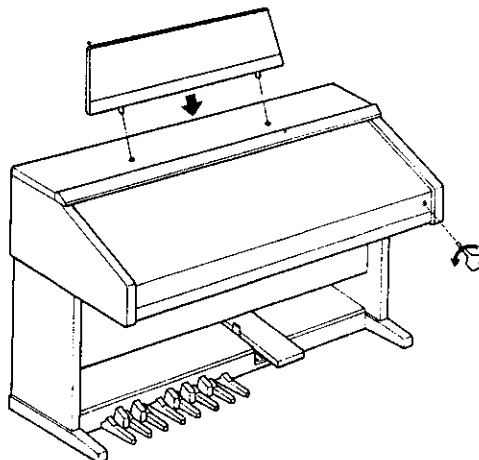
- 4.** Connect the power cord, speaker cord and pedal cords as shown.



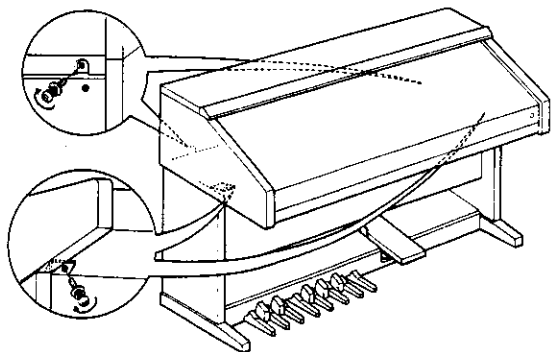
- 2.** Place the upper organ part on the lower organ part, making sure to fit the metal pieces together.



- 5.** Insert the music stand as shown. Unlock the cover with the accessory key.



- 3.** Using the four bolts removed in step 1, secure the upper organ part to the lower organ part as shown in the figure.



Cautions for safest use of this unit

Installation location

1. **A well-ventilated place.**
Take care not to use this unit in a place where it will not receive sufficient ventilation, and not to permit the ventilation holes to be covered by curtains, or any similar materials.
2. **Place away from direct sunlight and excessive heat from heating equipment.**
3. **A place where humidity, vibration and dust are minimized.**

Power source

1. **Be sure the line voltage selector is in accordance with local voltage in your area before connecting the plug to the socket.**
2. **DC power cannot be used.**

Handling the power cord

1. **Never touch the power cord, or its plug, with wet hands.**
2. **Don't pull the power cord.**

Metal items inside the unit may result in electric shock or damage.

Do not permit metal articles to get inside the unit.

Be especially careful with regard to this point if children are near this unit. They should be warned never to try to put anything inside.

If, nevertheless, some such article does get inside, disconnect the power cord plug from the electrical outlet, and contact the store where the unit was purchased.

If water gets into the unit

Disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

As a precaution, it is suggested that flower vases and other containers which hold liquids not be placed on the top of this unit.

If operation seems abnormal

Immediately turn off the power, disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

Discontinue using the unit at once. Failure to do so may result in additional damage or some other unexpected damage or accident.

- Because the power source is located inside the unit, it is normal for the cabinet to become warm.

A word about the power cord

If the power cord is scarred, is partially cut or broken, or has a bad contact, it may cause a fire or serious electrical shock if used. NEVER use a damaged power cord for any appliance. Moreover, the power cord should never be forcibly bent.

Don't touch the inside parts of this unit.

Some places inside this unit have high voltage potential. Never try to remove the top or back panels of this unit, or to touch inside parts by hand or with tools.

Contact someone who is qualified in order to inspect the inside, or to replace a fuse, if such becomes necessary. Never attempt to do these things yourself.

Maintenance

The following suggestions will assist you in keeping the unit in top condition.

- Be sure to switch the instrument off after use, and do not switch the unit on and off in quick succession, as this places an undue load on the electronic components.
- To keep the luster of the surface and buttons, simply use a clean, damp cloth; polish with a soft, dry cloth. Polish may be used but do not use thinners or petro-chemical-based polishes.
- A wax-based polish may be used on the cabinet, although you will find that rubbing with a soft cloth will suffice.

**SERVICE MUST BE CARRIED OUT BY DEALER
OR OTHER QUALIFIED PERSON**

Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics Organ but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	<ul style="list-style-type: none"> • Turn off the POWER button once, then turn it on again. If this procedure is not successful, turn off the POWER button once. Then, while pressing the three lower left buttons in the RHYTHM section at the same time, turn the POWER button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	<ul style="list-style-type: none"> • The MAIN VOLUME is at the minimum setting. Adjust the volume with the MAIN VOLUME control. • The DEMO button is on. ("---" is shown on the display.) Press the DEMO button to turn it off. The display returns to the normal performance display. (Refer to page 15.) • The volumes for the selected parts are set to the minimum levels. Use the VOLUME buttons to set the volumes of the relevant parts to appropriate levels. (Refer to page 41.) • The LOCAL CONTROL for a part performed on the keyboard is set to OFF. Set the LOCAL CONTROL to on. (Refer to page 88 [EN2] or page 95 [EN3/EN4].)
	Only percussive instrument sounds are produced when the lower keyboard is played (EN2/EN3/EN4).	<ul style="list-style-type: none"> • The KEYBOARD PERCUSSION button is on. Turn it off to return the keyboard to the normal sound.
	When the TAB & ORGAN is selected, it does not sound.	<ul style="list-style-type: none"> • If all the FLUTE and PERC buttons are off while the TAB (FLUTE) is selected, it does not sound. Turn on a FLUTE or PERC button to select the sound. (Refer to page 32 [EN1/EN2] or page 37 [EN3/EN4].)
	The sound of the lower keyboard or pedal keyboard does not stop.	<ul style="list-style-type: none"> • This occurs if the lower keyboard is played when the FINGERED 1 or 2 and the MEMORY buttons are on. Turn off the MEMORY button.
	The foot switch does not operate properly.	<ul style="list-style-type: none"> • Any function is storable in the foot switch. The default setting is for the glide control. Store your favorite function. (Refer to page 74 [EN1/EN2] or page 78 [EN3/EN4].)
Rhythm	The rhythm does not start.	<ul style="list-style-type: none"> • The DRUMS volume is set to the minimum level. Use the VOLUME buttons to set the DRUMS volume to an appropriate level. • The MIDI CLOCK is set the external clock (ON). Set the MIDI CLOCK to the internal clock (OFF). (Refer to page 90 [EN1/EN2] or page 97 [EN3/EN4].) • EN3/EN4: In the RHYTHM section, a COMPOSER number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the COMPOSER. (Refer to page 67.)
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	<ul style="list-style-type: none"> • An ACCOMP part does not sound if its corresponding volume is set to the minimum level. Use the VOLUME buttons to set the ACCOMP volume to appropriate levels.
	No sound is produced for the automatic accompaniment (EN3/EN4).	<ul style="list-style-type: none"> • In the RHYTHM section, a COMPOSER number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the COMPOSER. (Refer to page 67.)

SEQUENCER (EN3/EN4)	Storage is not possible.	<ul style="list-style-type: none"> The remaining memory capacity of the SEQUENCER is 0. Follow the SONG CLEAR or TRACK CLEAR procedure to erase the memory. (Refer to page 63.)
	Multi-track storage is not possible.	<ul style="list-style-type: none"> The playback track has been selected, but the START/STOP button has not been pressed. A flashing track indicator shows the track which is ready for recording, and a lit track indicator shows a track which is ready for playback. To record one track while listening to another (playback) track, press the START/STOP button to begin playback. (Refer to page 61.)
COMPOSER (EN3/EN4)	Storage is not possible.	<ul style="list-style-type: none"> The remaining memory capacity of the COMPOSER is 0. Erase a different COMPOSER number button in the RHYTHM section in which a pattern is stored. (Refer to page 67.)
	Setting the time signature and number of measures is not possible.	<ul style="list-style-type: none"> The time signature and number of measures cannot be changed for a pattern which is currently recorded in the COMPOSER. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory. (Refer to page 67.)
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	<ul style="list-style-type: none"> The QUANTIZE function was on when the pattern was recorded and the timing was automatically corrected. Set the QUANTIZE level to a smaller note unit or to OFF when recording. (Refer to page 68.)
Digital Disk Recorder (EN3/EN4)	The Digital Disk Recorder produces a noise during recording or playback.	<ul style="list-style-type: none"> This occurs when the Digital Disk Recorder is reading a disk. It does not indicate a problem.
	When the procedure to load from a memory disk is performed, the contents of the SEQUENCER memory are erased.	<ul style="list-style-type: none"> When performing the load operation from a memory disk, the SEQUENCER memory changes to that of the data loaded from the memory disk. If you wish to preserve a song which is stored in the SEQUENCER memory, save it in a memory disk before performing the load procedure. (Refer to page 81.)
Other	Noise from a radio or TV can be heard.	<ul style="list-style-type: none"> This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or servicenter.
	The cabinet becomes warm during use.	<ul style="list-style-type: none"> This instrument has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.
	The sound is distorted.	<ul style="list-style-type: none"> This instrument's sustained sound sometimes causes nearby objects, such as furniture or window panes, to vibrate. Turn down the volume or try moving such objects to a different location.

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Specifications

		SX-EN1	SX-EN2	SX-EN3	SX-EN4
KEYBOARD		UPPER KEYBOARD 44 KEYS LOWER KEYBOARD 44 KEYS PEDAL KEYBOARD 13 KEYS			
SOUND GENERATOR		PCM			
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY		32 NOTES (NUMBER OF NOTES WHICH CAN BE INPUT SIMULTANEOUSLY: UPPER KEYBOARD 8 NOTES, LOWER KEYBOARD 8 NOTES, PEDAL KEYBOARD 1 NOTE)			
ORCHESTRAL CONDUCTOR		—			
PARTS		UPPER KEYBOARD: TAB & ORGAN, POLY, SOLO LOWER KEYBOARD: TAB & ORGAN, POLY	UPPER KEYBOARD: TAB & ORGAN, POLY, SPECIAL LOWER KEYBOARD: TAB & ORGAN, POLY, SPECIAL	UPPER KEYBOARD: TAB & ORGAN, POLY, SPECIAL LOWER KEYBOARD: TAB & ORGAN, POLY, SPECIAL	UPPER KEYBOARD: TAB & ORGAN, POLY, SPECIAL, SOLO LOWER KEYBOARD: TAB & ORGAN, POLY, SPECIAL, SOLO
SOUNDS	UPPER	<POLY, SOLO> 10 SOUNDS: PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, JAZZ GUITAR, BRASS, SAX, CLARINET, FLUTE, STRINGS <TAB> FLUTE 16', 8', 4', 2' PERC 2-2/3' <ORGAN> 1-5	<POLY, SPECIAL> 20 SOUNDS (10 SOUNDS×2 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, ELECTRIC GUITAR, BRASS, SAX/SYNTH BRASS, REED, FLUTE, STRINGS <TAB> FLUTE 16', 8', 4', 2' PERC 2-2/3' <ORGAN> 1-5	<POLY, SPECIAL> 20 SOUNDS (10 SOUNDS×2 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD/VIBES, GUITAR, ELECTRIC GUITAR, BRASS, SAX/SYNTH BRASS, REED, FLUTE, STRINGS <TAB> FLUTE 16', 8', 4', 2' PERC 2-2/3' <ORGAN> 1-5	<POLY, SPECIAL, SOLO> 42 SOUNDS (14 SOUNDS×3 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD, Mallet, GUITAR, ELECTRIC GUITAR, SYNTH, BRASS, TRUMPET, SAX/SYNTH BRASS, REED, FLUTE/OBOE, VOCAL, STRINGS <TAB> FLUTE 16', 8', 4', 2-2/3', 2' PERC 2-2/3' <ORGAN> 1-6
	LOWER	<POLY> 8 SOUNDS: PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, BRASS, SAX, ACCORDION, STRINGS <TAB> 8', 4', 2' <ORGAN> ORGAN	<POLY, SPECIAL> 16 SOUNDS (8 SOUNDS×2 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, BRASS, SAX/SYNTH BRASS, REED, STRINGS <TAB> 8', 4', 2' <ORGAN> ORGAN	<POLY, SPECIAL> 16 SOUNDS (8 SOUNDS×2 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, BRASS, SAX/SYNTH BRASS, REED, STRINGS <TAB> 8', 4', 2' <ORGAN> 1-3	<POLY, SPECIAL, SOLO> 30 SOUNDS (10 SOUNDS×3 VARIATIONS): PIANO, ELECTRIC PIANO, HARPSICHORD, GUITAR, ELECTRIC GUITAR, BRASS, SAX/SYNTH BRASS, REED, VOCAL, STRINGS <TAB> 8', 4', 2-2/3', 2' <ORGAN> 1-4
	BASS	4 SOUNDS: ORGAN, ACOUSTIC, ELECTRIC, TUBA	8 SOUNDS (4 SOUNDS×2 VARIATIONS): ORGAN, ACOUSTIC, ELECTRIC, SPECIAL	8 SOUNDS (4 SOUNDS×2 VARIATIONS): ORGAN, ACOUSTIC, ELECTRIC, SPECIAL	15 SOUNDS (5 SOUNDS×3 VARIATIONS): ORGAN, ACOUSTIC, ELECTRIC, CHOPPER, SPECIAL
ONE TOUCH REGISTRATION		—			
EFFECTS	SUSTAIN	UPPER, LOWER, BASS			
	EFFECT	UPPER, LOWER, BASS			
	TOUCH	UPPER, LOWER			
	DIGITAL REVERB	○ (ROOM, STAGE, HALL)			
	GLIDE	UPPER			
	TREMOLO	UPPER TAB & ORGAN, LOWER TAB & ORGAN (SLOW/FAST)			
	CELESTE	—			
RHYTHM	RHYTHM	24 RHYTHMS (12 RHYTHMS×2 VARIATIONS): MARCH, COUNTRY, WALTZ, SWING 1, 2, LATIN 1, 2, 8 BEAT, ROCK, 16 BEAT 1, 2, DISCO	36 RHYTHMS (12 RHYTHMS×3 VARIATIONS): MARCH, COUNTRY, WALTZ, SWING 1, 2, LATIN 1, 2, 8 BEAT, ROCK, 16 BEAT 1, 2, DISCO	42 RHYTHMS (14 RHYTHMS×3 VARIATIONS): MARCH, COUNTRY, WALTZ 1, 2, SWING 1, 2, LATIN 1, 2, 8 BEAT, ROCK, 16 BEAT 1, 2, JAZZ ROCK, DISCO	
	CONTROL	START/STOP, SYNCHRO & BREAK, INTRO & ENDING, FILL IN 1, 2, COUNT INTRO, TEMPO			
	KEYBOARD PERCUSSION	—			
AUTO PLAY CHORD		AUTO PLAY CHORD (FINGERED 1, 2, MEMORY), ONE TOUCH PLAY, MUSIC STYLE ARRANGER			AUTO PLAY CHORD (FINGERED 1, 2, MEMORY), DYNAMIC ACCOMP, ONE TOUCH PLAY, MUSIC STYLE ARRANGER
TECHNI-CHORD		—			
VOICE SETTING COMPUTER		—			
COMPOSER		—			
SEQUENCER		STEP RECORD (CHORD) STORAGE CAPACITY: 200 CHORDS			
DISPLAY		○ (LED)		○ (LCD)	

	SX-EN1	SX-EN2	SX-EN3	SX-EN4
DEMO				
MIDI	START/STOP, MIDI CLOCK, NOTE ONLY, PROGRAM CHANGE MODE, MIDI OUT	CHANNEL, OCTAVE SHIFT, LOCAL CONTROL, START/STOP, MIDI CLOCK, NOTE ONLY, PROGRAM CHANGE MODE, MIDI OUT	CHANNEL, OCTAVE SHIFT, LOCAL CONTROL, VSC PROGRAM CHANGE, START/STOP, MIDI CLOCK, SONG SELECT, PROGRAM CHANGE MODE, NOTE ONLY, MIDI LOAD, MIDI OUT	
CONTROL	VOLUME, TEMPO/PROGRAM, TRANSPOSE			
EXTERNAL MEMORY	---		DIGITAL DISK RECORDER (OPTIONAL/ALREADY INSTALLED IN SOME AREAS)	
TERMINALS	PHONE, LINE OUT, AUX IN, MIDI (IN, OUT)	PHONESx2, LINE OUT, AUX IN, MIDI (IN, OUT, THRU)		PHONESx2, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT, THRU)
OTHERS	POWER SWITCH, MAIN VOLUME, EXPRESSION PEDAL, FOOT SWITCH			
OUTPUT	40W		50W	100W
SPEAKERS	16cmx1, 6.5cmx1	16cmx1, 6.5cmx1, (13cmx6cm)x1	20cmx1, 6.5cmx1, (13cmx6cm)x1	20cmx2, (13cmx6cm)x2
POWER REQUIREMENT	135W, 95W (NORTH AMERICA AND MEXICO)		155W, 105W (NORTH AMERICA AND MEXICO)	260W, 160W (NORTH AMERICA AND MEXICO)
	AC120/220/240V 50/60 Hz AC120V 60 Hz (NORTH AMERICA AND MEXICO) AC230V 50/60 Hz (EUROPE EXCEPT FOR UNITED KINGDOM)			
DIMENSIONS (WxHxD)	105.2cmx100.8cmx39.1cm (41-13/32"x39-11/16"x15-13/32")	108.8cmx105.5cmx43.8cm (42-27/32"x41-17/32"x17-1/4")	111cmx112.4cmx54.4cm (43-11/16"x44-1/4"x21-13/32")	111cmx114.2cmx53.5cm (43-11/16"x44-31/32"x21-1/16")
	105.2cmx100.8cmx46.1cm (41-13/32"x39-11/16"x18-5/32") (USA AND MEXICO)	108.8cmx105.5cmx49.8cm (42-27/32"x41-17/32"x19-19/32") (USA AND MEXICO)	111cmx112.4cmx58.9cm (43-11/16"x44-1/4"x23-3/16") (USA AND MEXICO)	111cmx114.2cmx58.9cm (43-11/16"x44-31/32"x23-3/16") (USA AND MEXICO)
NET WEIGHT	36 kg (79.4 lbs.)	45 kg (99.2 lbs.)	54 kg (119.1 lbs.)	63 kg (138.9 lbs.)
			55 kg (121.3 lbs.) (USA AND MEXICO)	64 kg (141.1 lbs.) (USA AND MEXICO)



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